



syngo Imaging and *syngo* Workflow.

The advanced package from the *syngo* Suite –
for efficient enterprise imaging workflow.

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syngo. It's all about you.

syngo, our unique solution for the diagnostic and therapeutic cycles, knows how you work. What you need. What's most important. Fast, easy, and intuitive, syngo brings together all of the solutions critical to you – and your patients. Uniquely role-based for your workflow, syngo completely integrates your day, your department and beyond. Leading to a whole new level of clinical excellence. And partnership you can grow with. It's the beginning of a virtualized, "always on, anywhere" world of healthcare. The time to syngo is now.





About *syngo*.

And the *syngo* Suite.

syngo[®] is the comprehensive IT solution from Siemens for the diagnostic and therapeutic cycle.

The *syngo* Suite provides this integration at the RIS, PACS and Processing. *syngo* Workflow* manages all processes for the exchange and distribution of patient data and images from end to end. The applications for diagnostic preparation, quality assurance and diagnostics are bundled in *syngo* Imaging.

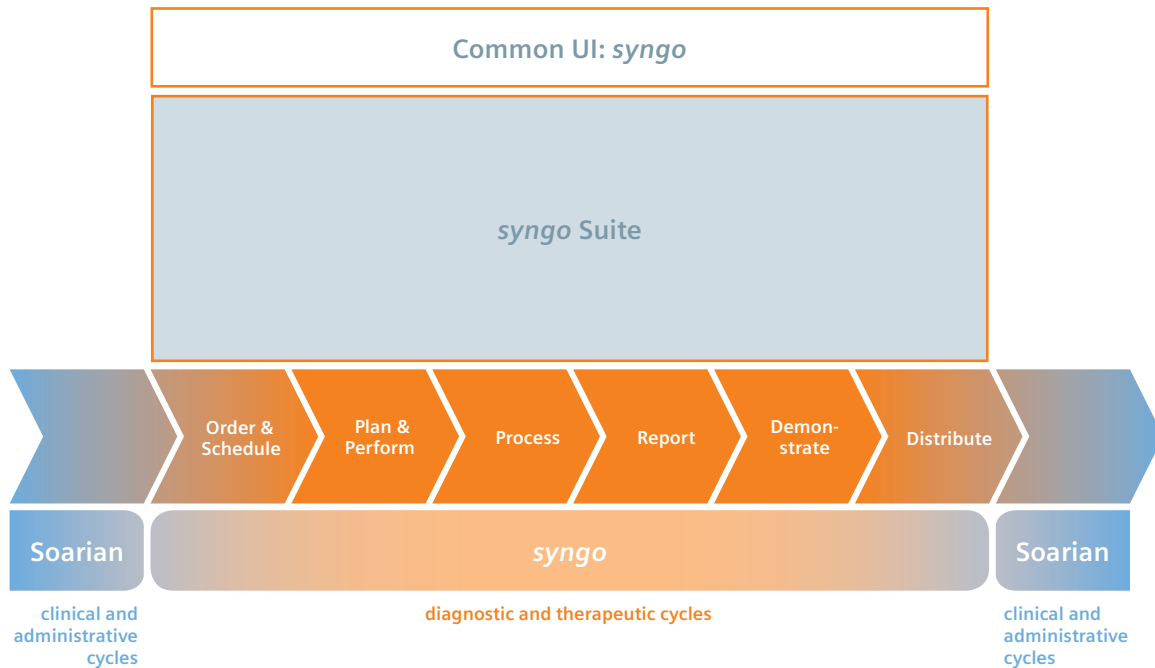
Thus, the *syngo* Suite covers the entire process, from patient registration to diagnosis to image distribution.

Let's follow the case of "Mary" to learn more about the advantages this integration brings. For the radiology team. For the referring physician. And for Mary.

*see disclaimer on back page

The *syngo* Suite unites people with processes

With the *syngo* Suite, radiologists, technologists, clerks and referring physicians can communicate with each other in a uniform, consistent manner at all times. Its scalability means that the solution is always attuned to current needs. And with its link to Soarian®, it eliminates traditional boundaries to jointly support both clinical and administrative as well as diagnostic and therapeutic processes.



syngo covers the diagnostic and therapeutic cycles and links them to clinical and administrative processes. A true milestone on the path to complete data consistency among departments, functions and organizations in healthcare.



Order and Schedule:

It's all *syngo*, starting with the primary care physician

After a bicycle accident, nine-year-old Mary complains of severe knee pain. Fortunately, an X-ray examination in the nearby medical practice conclusively reveals that there has not been a fracture. However, it's not clear whether or not she has any torn ligaments. Therefore, Mary is referred to the municipal hospital for a magnetic resonance (MR) examination.

Thanks to *syngo*, the medical practice is linked into the hospital's diagnostic and therapeutic workflow.

To schedule an MR examination in the hospital, the physician opens his *syngo* Portal Referring Physician* – a web tool that connects him directly to the hospital and its processes.

He can see in the task list of his portal that the urgently awaited diagnosis for another patient has not yet arrived. Therefore, he decides to prioritize Mary and move up his request: one MR for Mary, please!

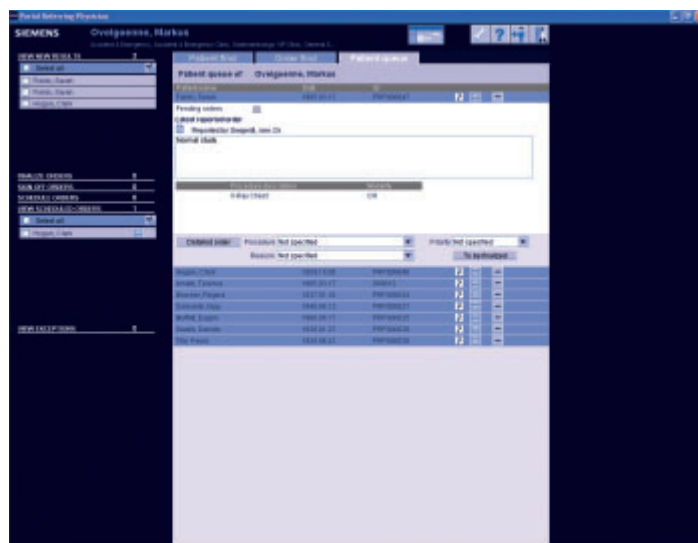
*see disclaimer on back page

Take your seat in the cockpit: syngo Portal Referring Physician

The *syngo* Portal Referring Physician* is an excellent example of role-specific workflow support in the *syngo* world. The content and layout were developed in close cooperation with our customers.

The portal gives the referring physician a quick overview of his entire list of tasks and his workday. By clicking on a task, he can immediately access all the information he needs to accomplish the task at hand.

Moreover, the physician does not need to process his tasks chronologically; he can use his own discretion to prioritize them any way he wants. He can thus focus on what he feels is most important, eliminating information overload.



All important information at a glance – all details just a few clicks away: the *syngo* Portal Referring Physician

*see disclaimer on back page



Prioritize –

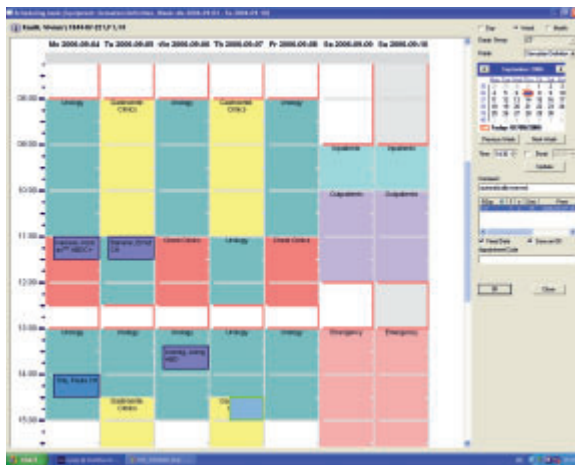
what has priority

The medical secretary in the radiology department sees on her screen that an examination has been requested by the referring physician via the *syngo* Portal (or in other cases via the Hospital Information System, HIS). And because the medical practice has “flagged” its request, she knows it is an acute, high-priority case.

The *syngo* Drag&Drop Scheduling feature helps the secretary schedule an appointment for Mary in a matter of seconds. The patient data transmitted from the medical practice is easily inserted into the task list, using drag and drop. Immediately, the information is now available to the radiology team.

Drag, drop, done

Drag&Drop Scheduling allows for quick, easy and reliable scheduling. If, for example, a patient needs to have both an MR examination and an ultrasound, these two appointments can be coordinated conveniently on the same screen. The goal is to schedule the examinations in such a way that the patient does not have to return to the department between appointments. This helps to increase patient satisfaction and to reduce waiting time.



Drag&Drop Scheduling boosts efficiency and reduces the chance of errors

The example presented in this section refers to the workflow between the referring physician and the hospital, which is handled via a web connection. Requests originating within the hospital are managed by Soarian Clinical Access.

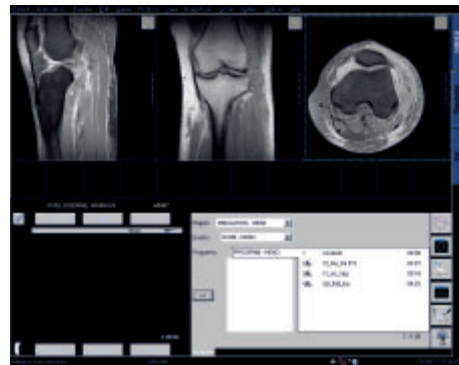


Plan and Perform:

One language for all modalities

All relevant information from *syngo* Workflow – including Mary’s full name, key patient data, and the type of examination – is loaded into the MR and added to the task list. All *syngo*!

The correct protocol is also launched automatically in the MAGNETOM, and the scan begins.



Quicker to learn, easier to use:
syngo assures a uniform “look and feel”

Learn once, know all

Thanks to the uniform user interface (UI) – with the same icons and the same look and feel – training effort is significantly reduced. Technologists can perform a variety of different examinations on different modalities, routinely and easily. This improves accuracy and reduces the chance of errors. And technologists can focus on doing their job instead of being distracted with different operating tasks.



syngo keeps you in the loop.

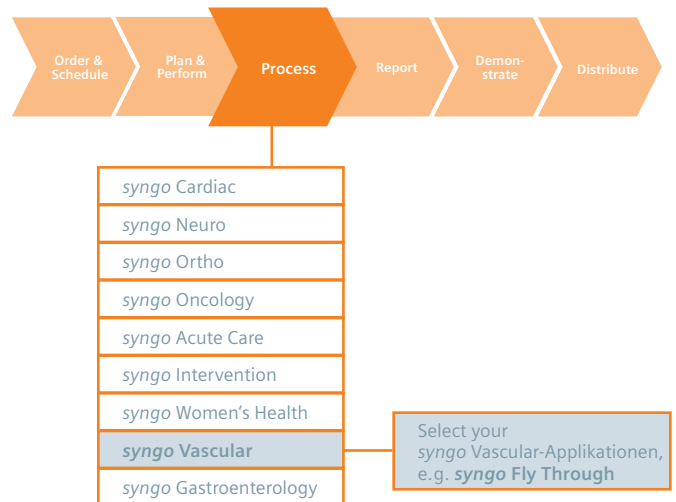
syngo enables a completely integrated and consistent flow of information to keep you in the loop, in the know, and in the here and now. With *syngo*, your entire workflow from scheduling, to imaging, to viewing and reporting is all right in front of you. Image acquisition, RIS, PACS, and processing seamlessly come together. And the diagnostic and therapeutic cycles seamlessly integrate with the clinical and administrative cycles addressed by Soarian. Uniquely collaborative, *syngo* is our solution that works across all modalities, offers real departmental integration and opens a gateway to the entire enterprise. *syngo* for one. *syngo* for all.



Process:

All tools on board

The images of Mary's knee have been generated. The technologist in radiology prepares the diagnosis by setting the filters and optimizing the images – all at one workstation, using a single password, within a matter of seconds.

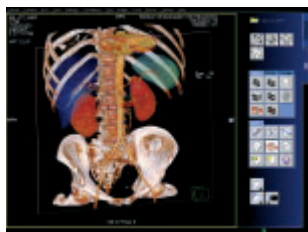


Applications bundled according to medical specialties and tasks

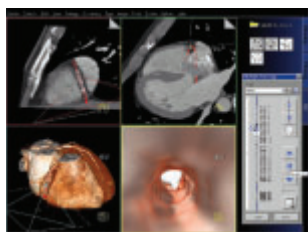
Clinical applications are just a click away

In addition to the standard applications – *syngo* 3D Basic and *syngo* VRT – advanced applications such as *syngo* Colonography, *syngo* ImageFusion and/or *syngo* Fly Through can be added individually.

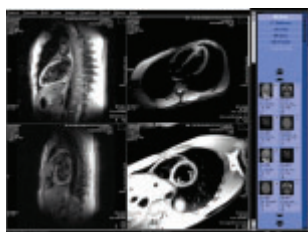
In accordance with the *syngo* concept, the applications can be used either directly at the machine, at the *syngo* MultiModality Workplace or at the *syngo* Imaging workstation in radiology. Thus, no matter how complex the examination, and regardless of the workstation structure in the respective department, *syngo* always has the same “look and feel” and the same user interface.



syngo VRT – Example of a standard application



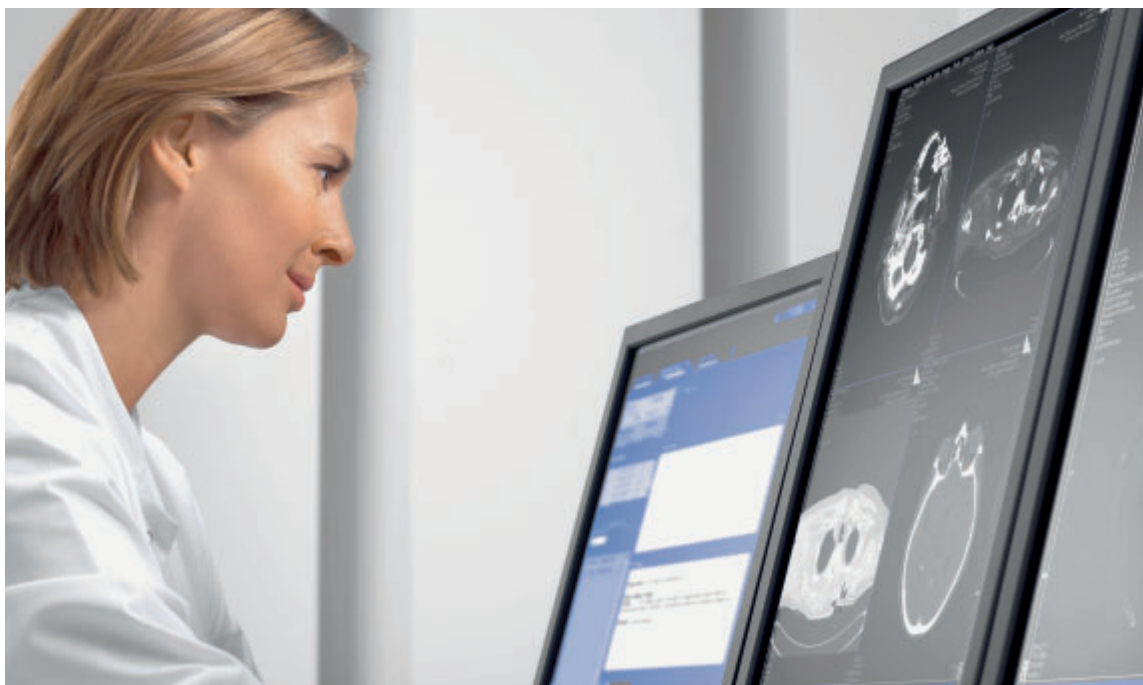
syngo Fly Through – Example of an advanced function



syngo navigation layout

syngo helps you deliver the best outcomes.

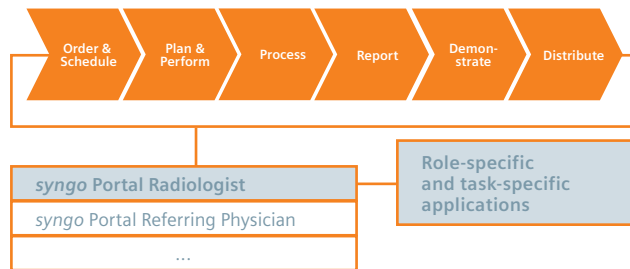
syngo is your unique access to a new level of patient-focused care. Only *syngo* brings together what's most important to you, focused by individual specialty area, to help you do your job with greater accuracy, speed, ease, and diagnostic confidence. Whether you're in Radiology, Cardiology, Neurology, Oncology, or Therapy Planning – everything you need for specific clinical functions, individual modalities, or multiple modalities is right at your fingertips. The benefit? Care that is optimized. Diagnoses that are confident. Workflow that is efficient. And a staff that is happy to *syngo*.



Report:

Everything at your fingertips

Using his role-based *syngo* portal, the radiologist accesses his own task list. The MR images of Mary's injured knee appear immediately when he clicks on Mary's name. Thanks to the Dynamic Loading function, he can quickly see which images will give him the best information for his analysis. After analysis of the 2D images, he comes to a preliminary conclusion that Mary's ligaments are not torn. But he would still like to verify this diagnosis – in 3D.



Task and role oriented interface helps user to increase efficiency and save time through ease of use



To verify his findings, the radiologist wants to view an advanced 3D image of Mary's knee. Using the SmartSelect software tool, he can select this function quickly and intuitively. The reassuring result: The 3D image also shows no signs of a torn inner ligament; only the outer ligaments are overstretched.

Using the voice recognition mode, the radiologist can now comfortably dictate his diagnosis at the same workstation. The text document is generated automatically and can be sent directly from the workstation to Mary's doctor.



Quick access to the most important functions – directly in the diagnostic screen: SmartSelect



Demonstrate:

Seeing what's important, faster

Mary was lucky and does not need further medical attention. She can leave the hospital now with her "Patient Media Package", a CD with her MR images. If the diagnosis had been more serious, requiring an operation on her knee, Mary's case would have been discussed in a clinical conference.

In this case, with just a few clicks, the radiologist can prepare a complete demo list containing all the necessary information, based on his findings. And the demonstration itself is just as quick and efficient.

Keeping it simple

Of course, nearly all the features of *syngo* Workflow can be used before and during the clinical conference, including

- Dynamic Loading – allowing for immediate viewing of the images, followed by progressively sharper resolution;
- integrated advanced 3D functions, so that a finding can be visually displayed or confirmed and any necessary intervention can be planned;
- focus on the relevant images that the radiologist has already flagged* in his preparations for the demonstration.

Whether in the examination room or in the demonstration room – not only the user interface, but also the functions are the same. *syngo* at every workstation.



syngo makes any place your place.

My place, your place, his place, her place – one place. *syngo* is wherever you work. Giving you access to the information you need to do your job better, faster, and with greater diagnostic confidence. With its intelligent UI, intuitive icons, and common look and feel on all modalities and workplaces, *syngo* speaks your language. Pull up a seat, any seat, and you're immediately where your information is. No longer tied down by physical location or hardware. *syngo* helps you reduce the number of work steps. Respond nimbly and flexibly. Collaborate easily. And in the future? Who knows where you might *syngo*.

*see disclaimer on back page



Distribute:

syngo comes full circle

The clinical findings are sent via the web to the medical practice. The physician is notified in his *syngo* Portal Referring Physician*.

Naturally, the physician will want to know immediately how his patient is doing. He opens the document and the attached images, which are visible on his screen even during the loading process. The diagnosis is good news for the doctor, as he now knows for sure that Mary's ligaments are undamaged. She will not require an invasive therapy. So it will only be ten more days before she's back on her bike. Good news for all!

*see disclaimer on back page

All relevant information for the primary physician

The *syngo* Portal Referring Physician* provides the primary physician not only with all the information he needs for a given task, but also all the necessary applications. In this case, it's the *syngo* Viewer which he needs to view the images.

Even in this work step, *syngo* features such as Dynamic Loading are extremely helpful. And because only the flagged images are sent to the primary physician, *syngo* prevents information overload and excess traffic on the network.

The diagnostic and therapeutic process comes full circle with the primary physician – because *syngo* unites people and processes.



Siemens Healthineers Portal Referring Physician interface showing a list of test results for a patient named R. A. Erbstein, MD. The interface is divided into sections for Hematology and Chemistry, with a table of results for each.

Test Name	Result	Reference Range	Units
Hematology			
WBC	12.1	4.8 - 10.8	10 ⁹ /L
Hgb	15.2	13.8 - 15.7	g/dL
Hct	45.1	38.3 - 47.8	%
MCV	29.7	84 - 101	fL
MCH	31.3	27 - 34	pg
MCHC	34.5	32 - 36	g/dL
RDW	11.5	11.5 - 14.5	%
Platelet Count	178	150 - 400	10 ⁹ /L
Neutrophils	86	50 - 70	%
Lymphocytes	10	20 - 40	%
Monocytes	2	2 - 8	%
Eosinophils	0	1 - 5	%
Basophils	0	0 - 2	%
Reticulocytes	0	0 - 1	%
Hemoglobin A1c	5.8	4.8 - 5.6	%
Glucose	110	70 - 100	mg/dL
Urea Nitrogen	10	8 - 20	mg/dL
Creatinine	1.2	0.8 - 1.3	mg/dL
BUN/Creatinine	8.3	7 - 11	mg/dL
Alkaline Phosphatase	110	44 - 147	U/L
Aspartate Aminotransferase	18	0 - 37	U/L
Alanine Aminotransferase	15	0 - 35	U/L
Gamma-GT	110	10 - 60	U/L
Calcium	10.2	9.0 - 10.2	mg/dL
Albumin	4.8	3.5 - 5.0	g/dL
Total Protein	8.5	6.5 - 8.5	g/dL
Bilirubin	0.8	0.1 - 1.2	mg/dL
Triglycerides	150	0 - 150	mg/dL
Cholesterol	200	0 - 200	mg/dL
HDL Cholesterol	40	40 - 100	mg/dL
LDL Cholesterol	150	0 - 150	mg/dL
Urea Nitrogen	10	8 - 20	mg/dL
Creatinine	1.2	0.8 - 1.3	mg/dL
BUN/Creatinine	8.3	7 - 11	mg/dL
Alkaline Phosphatase	110	44 - 147	U/L
Aspartate Aminotransferase	18	0 - 37	U/L
Alanine Aminotransferase	15	0 - 35	U/L
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Albumin	4.8	3.5 - 5.0	g/dL
Total Protein	8.5	6.5 - 8.5	g/dL
Bilirubin	0.8	0.1 - 1.2	mg/dL
Triglycerides	150	0 - 150	mg/dL
Cholesterol	200	0 - 200	mg/dL
HDL Cholesterol	40	40 - 100	mg/dL
LDL Cholesterol	150	0 - 150	mg/dL

If – unlike in Mary's case – the patient needs to be hospitalized for treatment, the station physician can access the diagnosis directly on the Hospital Information System, thanks to the OEM-PACS integration.

*see disclaimer on back page



Transparency and further development:

Partnership in practice

Working together on the high-class IT world

The *syngo* Suite can be adapted to every need. The scalable performance means complete freedom for you. You tell us the approximate range of your annual diagnostic and archiving processes – and we configure your *syngo* Suite accordingly.

If the workload increases, we can activate the solution's performance reserves. In other words, you pay only for the performance you actually need.

The same principle applies to the licenses. We offer a model that is as flexible as *syngo* itself. Wherever it is used, whoever uses it – it is adapted to your actual needs. This is the value you can expect from an investment partnership with Siemens – partnership in practice.



**Partners listen to each other. That's how we created a whole new world:
syngo and Soarian**

We talked to many of our customers, asking them what they think is the best possible IT world. And we found that most hospitals want a structure that rests on two main pillars:

- First, tailored solutions to cover all functions at the department level – meaning modalities, processing, image management and a department-specific information system.
- Secondly, a close link between the information system at the department level and the overall solution for the hospital's business processes.

Our architecture reflects this desired structure. While *syngo* sets the standard for diagnostic and therapeutic applications in the departments – Cardiology, Neurology, Radiology, Oncology – Soarian is responsible for enterprise-wide processes such as patient administration and billing.

Thus, the Siemens solutions *syngo* and Soarian enable your entire hospital to develop into a uniform, internally consistent IT world. In this world, economic efficiency goes hand in hand with better patient care. Just like *syngo* and Soarian.

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syngo Workflow (Version SLR) is only available in the U.S. and Canada. *syngo* Workflow (Version MLR) is only available outside the U.S.

The *syngo* Portal Referring Physician is only released for *syngo* Workflow MLR.

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