

VidiView Enterprise Imaging - release brief v4.10

Lund 2023-08-14

Summary

Another important release of our medical image management system VidiView is available!

This release will conclude the era of VidiView R4 and act as the bridging release from 4.x to R5 (5.0). We urge all our customers to migrate to this release during the fall 2023 to prepare for the coming release of VidiView R5. VidiView Controller and VidiView Capture from the 4.10 branch will continue to work with the R5 Server and R5 Client once they are released to make the transition as smooth and non-obtrusive as possible.

VidiView v4.10 is the successor of v4.9, released back in August 2022. The focus in the v4.10 release revolves around

- [General] Prep for the future – Further improved and extended API
- [General] Prep for the future – New Dicom modality worklist module
- [General] Prep for the future – New Dicom C-store module
- [General] Prep for the future – New Dicom Q/R module
- [Feature] New possibilities and options for transformational Dicom workflow configuration
- [General] Preparation for the future!

Detailed information on the most important updates

[General] Prep for the future – Further improved and extended API

To deliver the functionality and continuity our customers demand from a solution like VidiView, we've spent a lot of time and efforts on providing a standardized API which all modules and components in the VidiView ecosystem can use. From release R5 and onwards this API will be the only API available in the product and all components will communicate using this API. VidiView Controllers, Capture-units, app-based clients, web clients, future config tools, future statistics tools and all types of external integration will work with the same API - making the product more manageable for us as a developer and for 3rd parties as integrators.

The API is a REST-based webservice interface with a full and rich documentation. To enable 3rd parties' easier access and "readability" of the API we've also developed an intuitive API Browser that can "browse" the API and give developers an instant understanding of where a specific path will take them and what options are available down that road.

The API has been around for some time now but from release 4.10 and onwards into the 5.x-era we're now officially releasing it to the public with the above-mentioned documentation and toolkit. We hope this effort will make our ecosystem more accessible and appealing to future integrators and partners of



Ideon Researchpark
S-223 63 Lund
Sweden

Tel +46-755-55 1200
<https://www.distributedmedical.com>
info@distributedmedical.com

ours – fortifying our position on the market as the most solid, open and flexible medical image management solution out there.

[General] Prep for the future – New Dicom modality worklist module

From VidiView v3.0 and onwards we have worked with a flavor of dcm4che, a Java-based reference implementation of various Dicom libraries and modules, which were wrapped and used within our .net environment. All customized to our needs and likings.

This entire beast of a mechanism (incl. Java-related libraries) has now been replaced by a branch of another high performance, .net native Dicom reference implementation from Fellow Oak. The replacement gives VidiView better performance, less black-box fuzziness and over all better control of the workflow.

This replacement is instrumental for the VidiView ecosystem which tends to interact with other Dicom-based infrastructure products in many deployments – hence requiring a lot of test and validation. Which has been carried out, sometimes with great frustration, a lot of sweat and mighty all-nighters.

The result is a new, modern, flexible and high performance Dicom modality worklist module. For the end user - hopefully no change – for the application management – very nice!

The new Dicom modality worklist module includes:

- Flexible Dicom tag morphing abilities on worklist item ingress (to study data in the VidiView storage)
- Flexible Dicom tag filtering with logic operands if needed
- IPv6 support
- Dicom TLS (Secure Dicom)

We feel this new module will better serve our customer in a future, modern Dicom-based enterprise imaging environment.

[General] Prep for the future – New Dicom C-store module

As with the Dicom Worklist module the new C-store module is a part of the all new Dicom framework integrated with the product as described above.

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The result is a new, modern, flexible and high performance Dicom C-store module. For the end user - hopefully no change – for the application management – very nice!



The new Dicom C-store module includes:

- Flexible Dicom tag morphing abilities on Dicom objects on the egress (transform of Vidiview storage study data during C-store to a remote archive)
- Flexible Dicom tag filtering with logic operands if needed
- IPv6 support
- Dicom TLS (Secure Dicom)

We feel this new module will better serve our customer in a future, modern Dicom-based enterprise imaging environment.

[General] Prep for the future – New Dicom Q/R module

As with the Dicom Worklist module the new Q/R module is a part of the all new Dicom framework integrated with the product as described above. The new Q/R module will not be a part of the first 4.10.0 release as further testing is needed. The release of this feature will come in v4.10.1.

This replacement is instrumental for the VidiView ecosystem which tends to interact with other Dicom-based infrastructure products in many deployments – hence requiring a lot of test and validation. Which has been carried out, sometimes with great frustration, a lot of sweat and mighty all-nighters.

The result is a new, modern, flexible and high performance Dicom Q/R module. For the end user - hopefully no change – for the application management – very nice!

The new Dicom Q/R module includes:

- Flexible Dicom tag morphing abilities on Dicom objects on ingress (transform of Vidiview storage study data during Q/R to a remote archive)
- Flexible Dicom tag filtering with logic operands if needed
- IPv6 support
- Dicom TLS (Secure Dicom)

We feel this new module will better serve our customer in a future, modern Dicom-based enterprise imaging environment.

[Feature] New possibilities and options for transformational Dicom workflow configuration

One use case for the VidiView Enterprise Imaging ecosystem is **centralizing and managing fleets of 3rd party Dicom producing equipment** (not including typical radiology equipment). This use case is becoming increasingly popular, and we believe our new Dicom stack will strengthen this, often complex and non-conformant use.



To better accommodate this use case, we've developed a new configuration tool for tag morphing with filtering ability in the VidiView Server Configuration Tool.

Many times, the quality and completeness of the Dicom data produced in stand-alone 'Dicom video units' of various kinds is unsatisfying. Tags might be missing (not configurable), tags might be incorrect, tags might have worklist data in object tags, etc. For all such occasions it's now possible to wash and polish up this information and tags on the way into VidiView – or on the way out of VidiView (depending on needs and design).

Transformational workflow configurations can now be done both on ingress (the Dicom data that comes in from the worklist item) and egress (on the Dicom data that is sent to the PACS/VNA destination) and individual for each DMWL, C-Store or Q/R node.

Dicom modality worklist provider

Provider name: DummyWL

Host name or IP address: localhost

Port: 1105

Remote AE title: DM_RIS

Local AE title: VIDIVIEW

Workflow configuration: Default CFind workflow

Max connections: 4

Default query parameters

Scheduled station AE title: DMSTATION1

Modality: XA

Buttons: Verify (C-Echo), Edit

Config options for worklists as well as C-store can now be set up with a specific workflow configuration.

The default workflow can always be reviewed (to understand exactly how it will process the image) and then be altered if needed.

To create a custom workflow simply press the 'Create copy' button in the lower left corner and a new, editable version will be created. Name it and edit away!

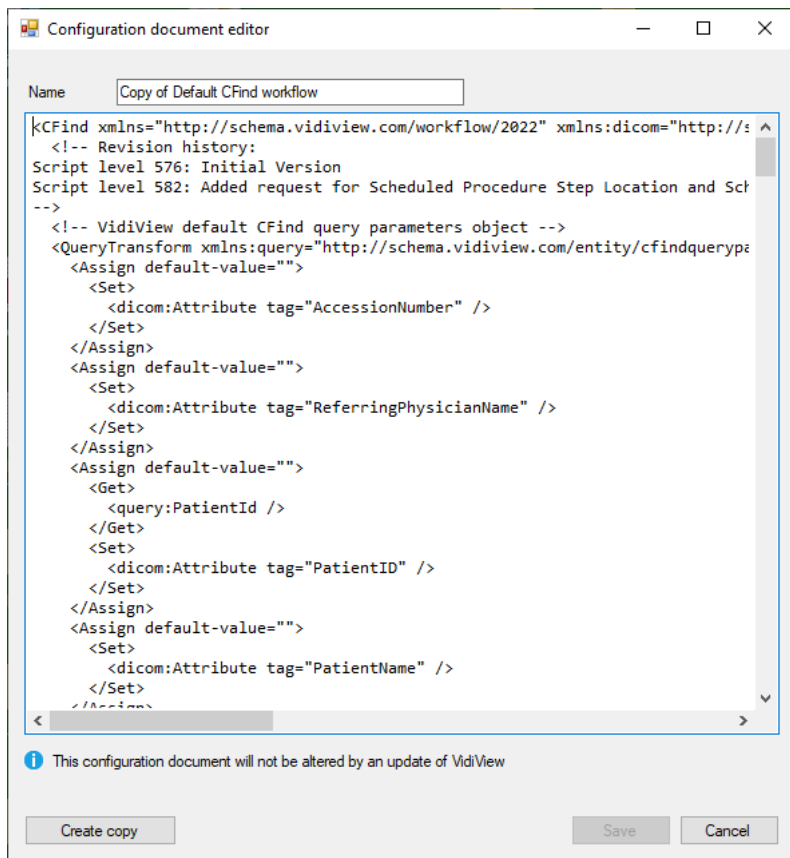
Configuration document editor

Name: Default CFind workflow

```
<CFind xmlns="http://schema.vidiview.com/workflow/2022" xmlns:dicom="http://schemas.oasis-open.org/ns/dicom/2012" >
  <!-- Revision history:
  Script level 576: Initial Version
  Script level 582: Added request for Scheduled Procedure Step Location and Scl
  -->
  <!-- VidiView default CFind query parameters object -->
  <QueryTransform xmlns:query="http://schema.vidiview.com/entity/cfindqueryparams" >
    <Assign default-value="" >
      <Set >
        <dicom:Attribute tag="AccessionNumber" />
      </Set >
    </Assign >
    <Assign default-value="" >
      <Set >
        <dicom:Attribute tag="ReferringPhysicianName" />
      </Set >
    </Assign >
    <Assign default-value="" >
      <Get >
        <query:PatientId />
      </Get >
      <Set >
        <dicom:Attribute tag="PatientID" />
      </Set >
    </Assign >
    <Assign default-value="" >
      <Set >
        <dicom:Attribute tag="PatientName" />
      </Set >
    </Assign >
  </QueryTransform >
</CFind >
```

This is a default configuration document, therefore it cannot be edited

Buttons: Create copy, Save, Cancel



Several different configurations can be created and named according to their respective function.

Tags can be directed to (morphed) to other tags or to custom fields (data holders) in the VidiView system.

Tags can also be treated with basic logic operands (if, or, else).

The same goes for egress workflows where tags can be populated with information from any data holder in the VidiView system on demand and/or applied with logics.

All configuration is carried out in the VidiView Server Configuration Tool.

[General] Preparation for the future!

Since late 2019 we have designed a new architecture, planned, and evaluated new technologies within our domain, examined and mapped current and predicted future customer needs and tried to forecast future imaging tech trends in the medical field.

All these activities have been conducted to plan for and forge a strong foundation for the next generation of VidiView – **Release 5.0**

Parallel with this work, our regulatory compliance work to align with the EU directive MDR (Medical Device Directive) is always ongoing. All work towards the new R5 version needs to be aligned with MDR. A complex and sometimes unknown territory to trek – but we get more and more comfortable in this field. Should you ever feel that the product lacks a certain risk assessment for any of it's feature and functions – **please let us know!**



What to expect in the coming release of VidiView?

In the first release of the new generation R5 we plan to introduce the following features

- **Working with multiple studies of the same patient** in parallel in a better, more convenient way making way for effective collaboration between client applications
- **Brand new Dicom and HL7 stack** – *partly pre-release in v4.10*
- **A new concept of study states**
- **A new concept of study types**
- **Massive automation** based on state and type
- **A new conferencing and collaboration toolkit**
- **Further development in the anatomy (body) mapping toolkit**
- Stronger **support for working with audio-only exams** such as phonetics exams and therapeutic speech (conversations)

The current, overall focus for the product development is heading towards user collaboration, specific workflow support and usability.



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