



White paper

Understanding Branches and Cores with Ocularis 5

Prepared by:

Diane Jecker, Director of Training and Technical Writing,
On-Net Surveillance Systems, Inc.

Date: November 15, 2016

Who Should Read This Document

The target audience for this document are the administrators and surveillance system architects that configure recording components for Ocularis 5.

General Information

The recording engine in Ocularis 5 is broken into several components, each with its own purpose. Cores deal with configuration data, events, alarms and authorization, while a Device Manager, along with its corresponding MDS (Media Database Service) manages the storage of recorded video data. An additional component, called a *branch*, may also be used in certain circumstances to effectively manage the system. This document provides an overview of functionality of the branch and other recorder components.

Branches in Ocularis 5

In Ocularis 5, a branch may be used to logically organize the components of the recording system. Viewing and configuring branches is done via the Ocularis Recorder Manager. There is a top level main 'branch', defaulted to *Company*, and other branches may be created. In some cases, branches are optional and provide for visual ease of use of the product. In other cases, branches are required.

When the software is installed, one *Company* or main branch is created. You can rename this branch as your own company name or the company name for the customer. For installations where multiple people will be administering recording components, creating a user account at a branch level will isolate that user's ability to configure the system solely for their branch (similar to a *Group Administrator* in Ocularis Administrator). They will not have visibility to other branches. The administrator at the top level will always have visibility down all branches.

Branches may also be organized into a *Branch Group* to facilitate navigation. Branch groups are displayed as folders and serve no other function than for cosmetic display and organization.

Branches and Slave Cores

As a review, the heart of an Ocularis 5 recorder system is the master core. This component manages the configuration database of the system. The master core is always in the top level main branch. In Ocularis ENT and ULT, additional cores called 'slave cores' may be added to help distribute the work load from the master core and provide redundancy. If an Ocularis ULT or ENT installation has a master core but no slave core(s) and the master goes down, operators will not be able to see video or log in to the system, events will not be transmitted to the Base and the system cannot be configured. With a slave core installed, operators already logged in will still be able to see video although new log ins will not be successful nor will events be received. Therefore, it is important to take advantage of slave cores in these models of Ocularis and always install at least one.

Understanding Branches with Ocularis 5

In Ocularis 5, there are some things about slaves and branches that are worth looking at closely. To start, there are some general rules about the two:

- There can be only one slave core at the company (top) main level
- More than one slave core at this level is useless, non-functional and displayed with a '+' symbol
- There is a maximum number of slave cores or DMs in an installation of 250
- Slaves in branches are needed to shift the load away from the master, especially when using slower connections
- We recommend including a slave core at the company (top) main level for redundancy

The Master/Slave Relationship

When there is an available slave core in an installation it will synchronize with the master core configuration. The master core will offload much of its work to that slave (hence the name) so that the master core can concentrate on more important things. The slave core takes care of handling authorization of clients as well as alarm scenarios. The master core manages the configuration database and handles things like backup, events, and report mode. Once the master core receives events from the slave core, the events will be deleted from the slave core. It is important, therefore, to be aware of where a slave core is installed since its location can actually be a detriment to the system.

In the sample layout shown in Figure 1, when the operator logs in with Ocularis Client, if there is an available slave core, it will take over for the master core for user authentication. Since the slave in this example (on server D) is not on a local network, performance is dependent on the bandwidth across the WAN. This will likely cause sluggish performance for the operator at best.

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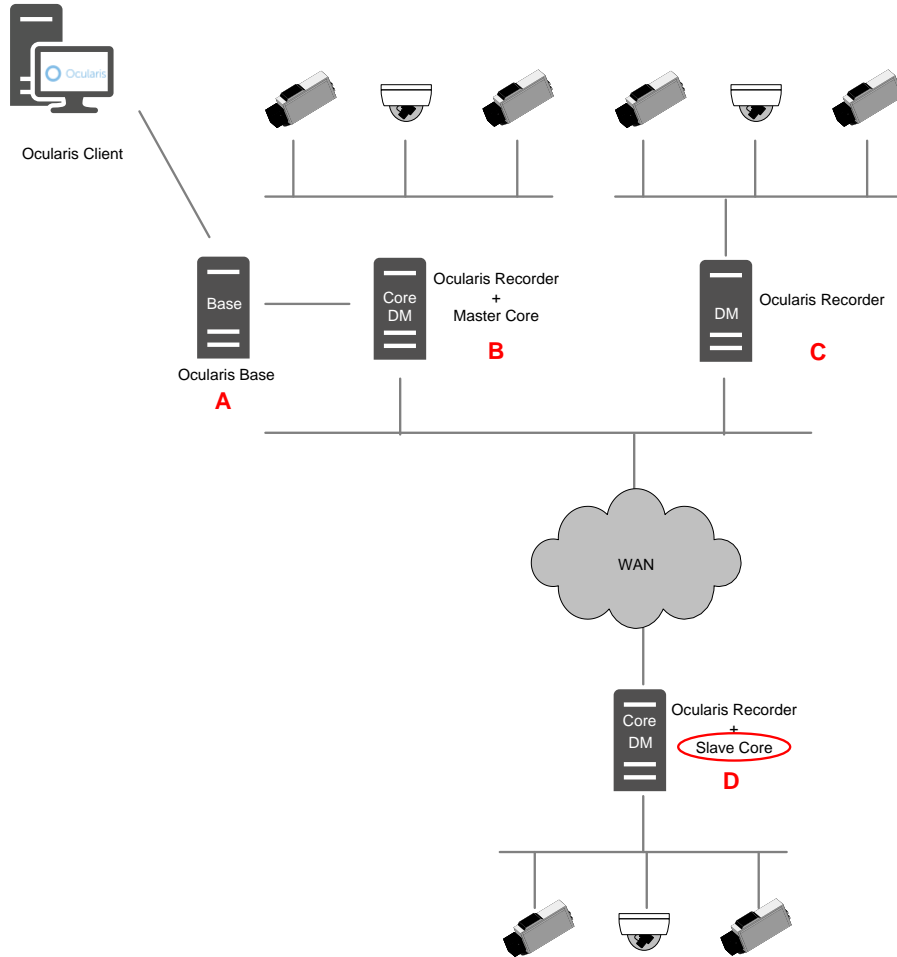


Figure 1

In this case, you should add a slave core to Server C alongside the DM.

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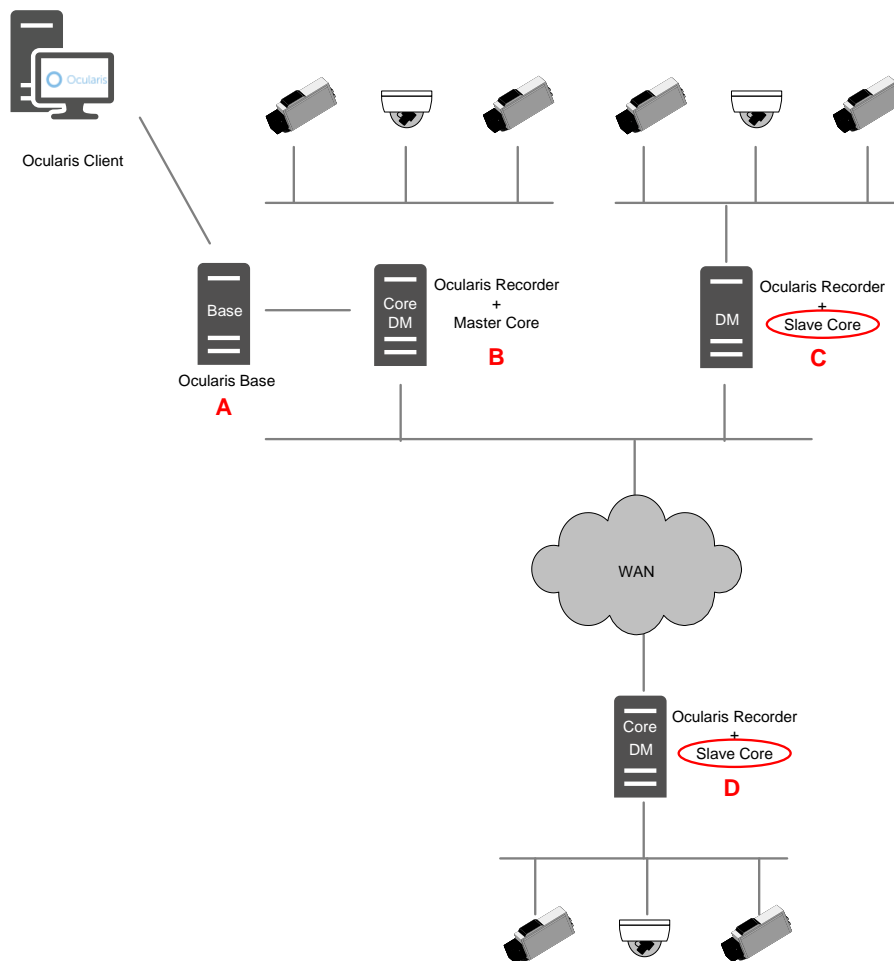


Figure 2

Having a slave here makes more sense. However, we now just broke the first general rule about not having more than one slave at the company level. Therefore, we need to add a *branch* to accommodate the remote slave core.

Branches

Branches in the Ocularis Recorder Manager are used to organize a structure within the recording components. They also serve the purpose of providing a means to allow multiple slave cores to function. If there is more than one slave at the company top level, only one is functional. All others will be displayed with a '+' symbol. If you see this, it means the slave core is non-working.

Create a branch by clicking the 'New Branch' icon in the uppermost portion of the control bar as shown in Figure 3.

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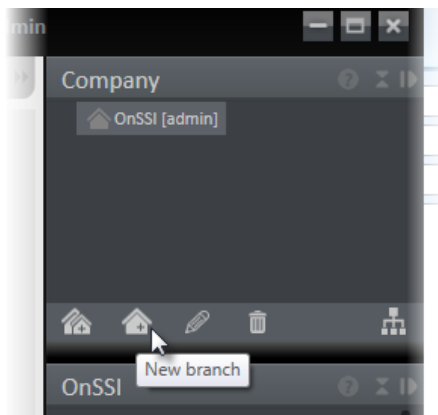


Figure 3

There can only be one true level of branches. Branches cannot have sub-branches. However, a *branch group* may be created to create the illusion of a hierarchy. Use the 'New branch group' icon to create one.

For example: in Figure 4 there are five branches. All branches technically stem from the Company OnSSI top level despite the appearance that Branch 4 is somehow a sub branch of Branch 3. Branch folders are simply used to organize the screen.

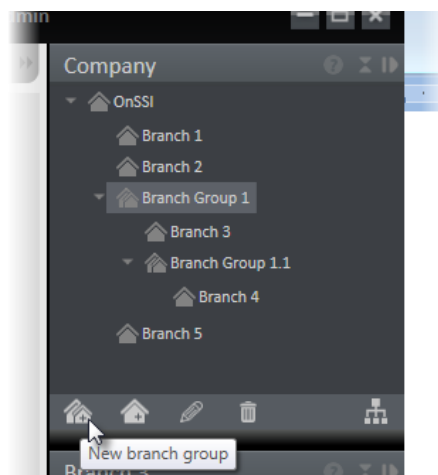


Figure 4

The actual layout is shown in Figure 5.

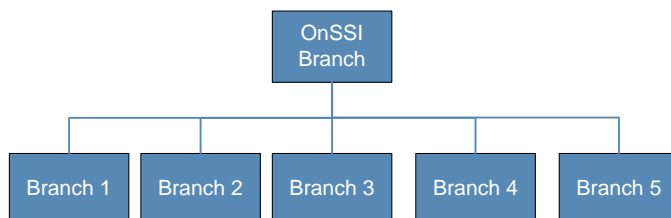


Figure 5

Branches can be organized in many different ways. You may, for instance, want to organize branches geographically.

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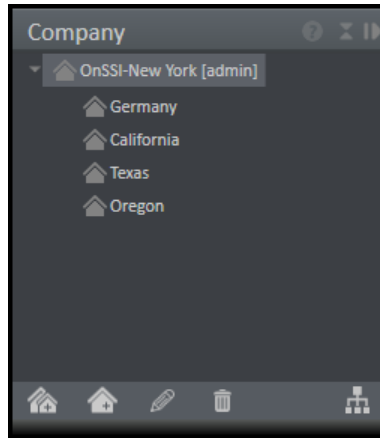


Figure 6

Here you can organize local resources such as slave cores, DMs, cameras, etc. within each branch. You can create a user account at the branch level for local administrators to configure only their branch.

Another common use of branches is to create a branch for each server.

For example: the layout shown in Figure 2 might look like this:

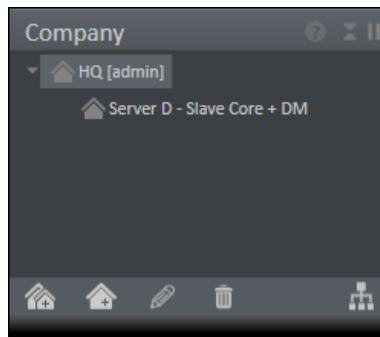


Figure 8

Creating one branch will allow the slave core on Server D to concentrate on local tasks while the slave core on Server C can deal with tasks on that side of the firewall.

Alternately, you can also set up a branch for Server C.

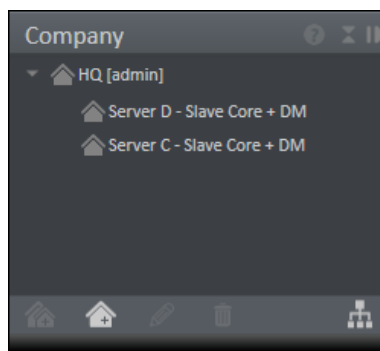


Figure 9

Then, you can place resources within a given branch.

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- The master core will always be in the top level.
- One or more Device Managers can also be at the top level.
- The slave core on Server C can be at the top level or in the Server C branch.
- Server D should be in a branch and have its own slave core and DM.

Note: branches and branch groups are not visible in Ocularis Administrator.

To Place a Resource in a Branch

Among other things, the *Site Map* is used to move objects to or between branches.

1. First, create the resource (e.g. camera, user, device manager, etc.) in the main/top-level branch.¹
2. Create the branch (if not already done).
3. Click the 'Site Map' icon located in the upper right portion of the Control Bar.

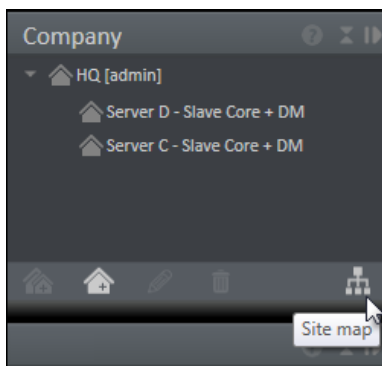


Figure 9 Site Map

4. A pop-up appears displaying branches and video sources.

¹ If you are using multiple slave cores, it is recommended to have one installed at the top level before installing Slaves intended for branches. When you first install a Slave it is located at the top level until you associate it with a branch. If there is no Slave already at the top level, the Slave intended for the branch will be given tasks to perform before you have a chance to associate it with a given branch. This can cause it to potentially overload due to poor bandwidth.

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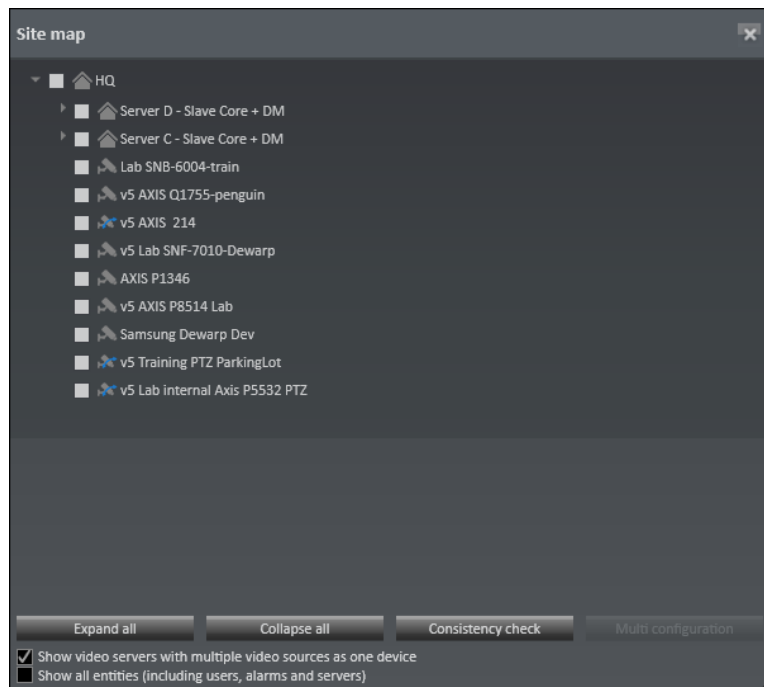


Figure 10

- Click 'Expand all' to be sure all levels are visible.
- To see all objects, click the box for 'Show all entities (including users, alarms and servers)'.

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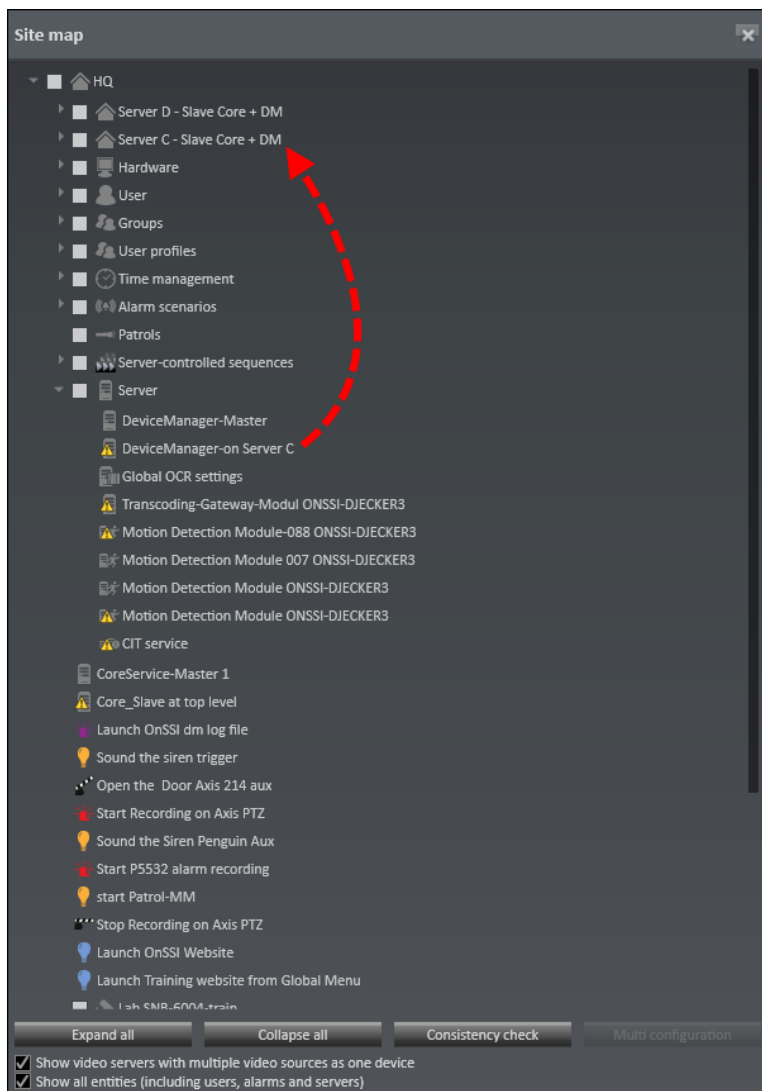


Figure 11

5. Drag and drop the resource from the list to the desired branch.
6. Repeat for each resource.
7. Click the branch name to see resources associated with that branch.

Resources may only be moved between branches by an administrator at the top level branch.

It is recommended to move the following resources to the branch level including:

- Slave cores on the branch
- Device Managers and corresponding cameras
- Alarm scenarios associated with the device manager
- VA Motion Detection (MD) modules related to the cameras

Also, moving objects between branches may cause inconsistent references. Therefore, it is important to perform a consistency check.

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To Perform a Consistency Check using Site Map

1. Open the 'Site Map' icon in the upper right portion of the Control Bar.
2. A pop-up appears displaying branches and video sources.

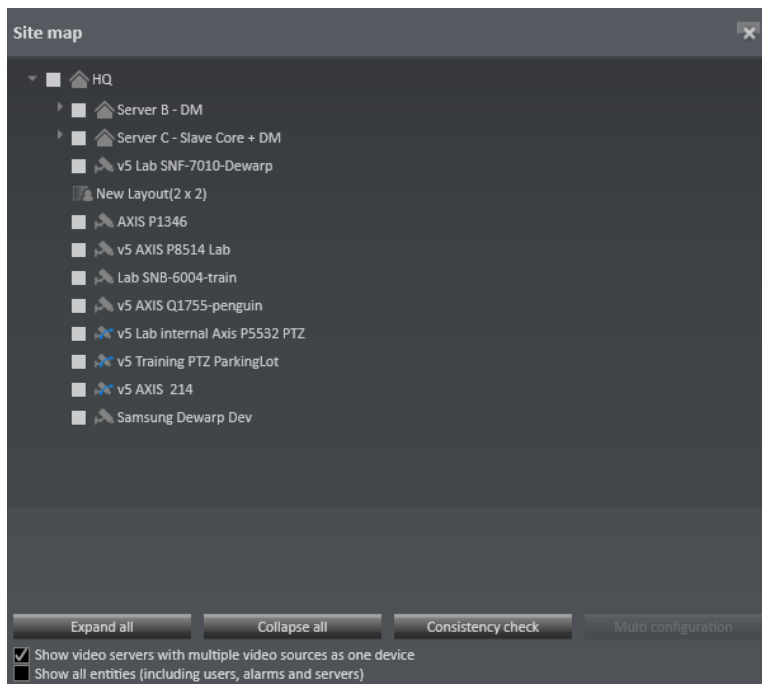


Figure 11

- Click 'Expand all' to be sure all levels are visible.
 - To see all objects, click the box for 'Show all entities (including users, alarms and servers)'.
3. Click the **Consistency check** button to perform a check. A 'No problems found.' message should appear if everything is ok.

If there are inconsistencies, you will see a pop-up identifying them. For instance:



Figure 12 Inconsistencies pop-up

The message in Figure 12 identifies that there is an invalid reference between branches. This is because there was a time template used for the camera that exists in the top level, but not in

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the branches. Move or recreate the time template in the branch and run the consistency check again.

Lastly, you may use the Site Map as another way to configure multiple devices. Check the devices you want to configure as a group and then click 'Multi configuration'. It will launch the Multiple IP camera configuration screen and allow you to configure shared parameters as a group.

Best Practices

These items apply to Ocularis ENT and ULT:

- For installations in a single physical location, the recommendation is to use one master core and one slave core.
- For multiple locations connected over a WAN:
 - i. If there is a good connection between each site, the recommendation is to use one master core and DM. Additional physical locations should have one slave core installed along with one or more DMs in branches.
 - ii. If there is poor connection between each site, the recommendation is to use one master core on each Device Manager (DM) server. Additional master core licenses are available at no charge.
- In situations where NAT is used between sites, it is recommended to install separate master cores at each remote site.
- If there is no connectivity between sites, each site is an independent system requiring its own Ocularis Base and recorder (and corresponding SLCs).
- NAT is not supported between a core and a DM.
- If you distribute administration of the system to multiple people, create a user account in their branch. Be sure to grant them access rights to the devices and objects in the branch.
- For maximum redundancy and performance, for each physical location, install a branch with a slave core alongside one or more Device Managers.
- You should also associate Device Manager (DM) cameras with the DM branch. This will help with understanding the configuration layout and is useful if you are using multiple administrators to configure individual branches.
- If you are using server side motion detection, for each branch with a DM, associate corresponding VA MD modules with that branch.
- For cameras, *folders* may be used as another level of organization. Folders help you organize your objects further especially if you have a long list of items. Folders only serve the purpose to help you visually. For instance: for each branch you may decide to organize cameras by Indoor vs. Outdoor, PTZ vs. Fixed. See one example in Figure 13.

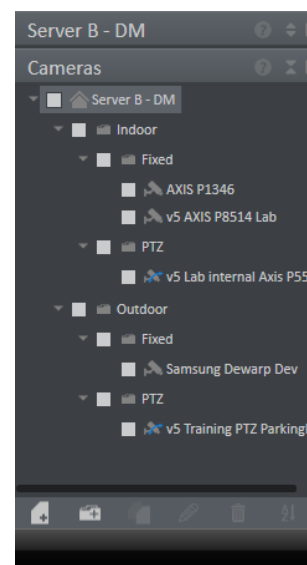


Figure 13 Camera Folders

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- Install a slave core at the top level.

