

Application Note

LYNXTechnik **AG**[®]
Broadcast Television Equipment

Centralized Status Monitoring with the LYNX APPolo Control GUI

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1 Overview

The LYNX APPolo Control GUI is a software application for setup, configuration and monitoring of the LYNX signal processing infrastructure. This application note describes an easy way in which the provided tool and functionality can be used for a centralized status monitoring of a large and complex system.

The basic concept is based on a hierarchical organization. It is possible to organize the presentation of all LYNX CardModules in a user-defined structure with groups and subgroups. And any level of this presentation will visualize at one glance if all components in this group and below are OK or if there is a potential problem (signal failure etc.).

Details are explained in the following sections.

2 Status of individual CardModule

2.1 Error condition generates EVENT -> propagated in Control System

Every individual signal processing device (LYNX CardModule) provides current status information, consisting of a color and an associated text. As long as there is no current problem (all signals present, all conditions good etc.), the status color is GREEN and the text is "ok".

If some input signal is missing or any other kind of problematic circumstance is detected, the following actions take place (illustrated in Figure 1)

1. The CardModule will generate an EVENT. This EVENT becomes visible in multiple ways.
2. The Master-LED on the CardModule (which is visible through the closed FrontCover of the RackFrame) may change its color from GREEN to YELLOW or to RED. In other words: if the Master-LED of a CardModule has any color other than GREEN, then at least one EVENT is currently active.
3. The Event is written down in the textual Logfile of the RCT5031 MasterController (for future reference)
4. The Event is propagated to remote control interfaces as applicable (SNMP, LYNX RemoteIF).
5. The Event is displayed in the textual Log-Area (lower part) of the GUI
6. The Master-LED in the GUI of that CardModule always represents the same color as the physical Master-LED on the CardModule itself.
7. The same LED color is also displayed in the Tree-View of the GUI

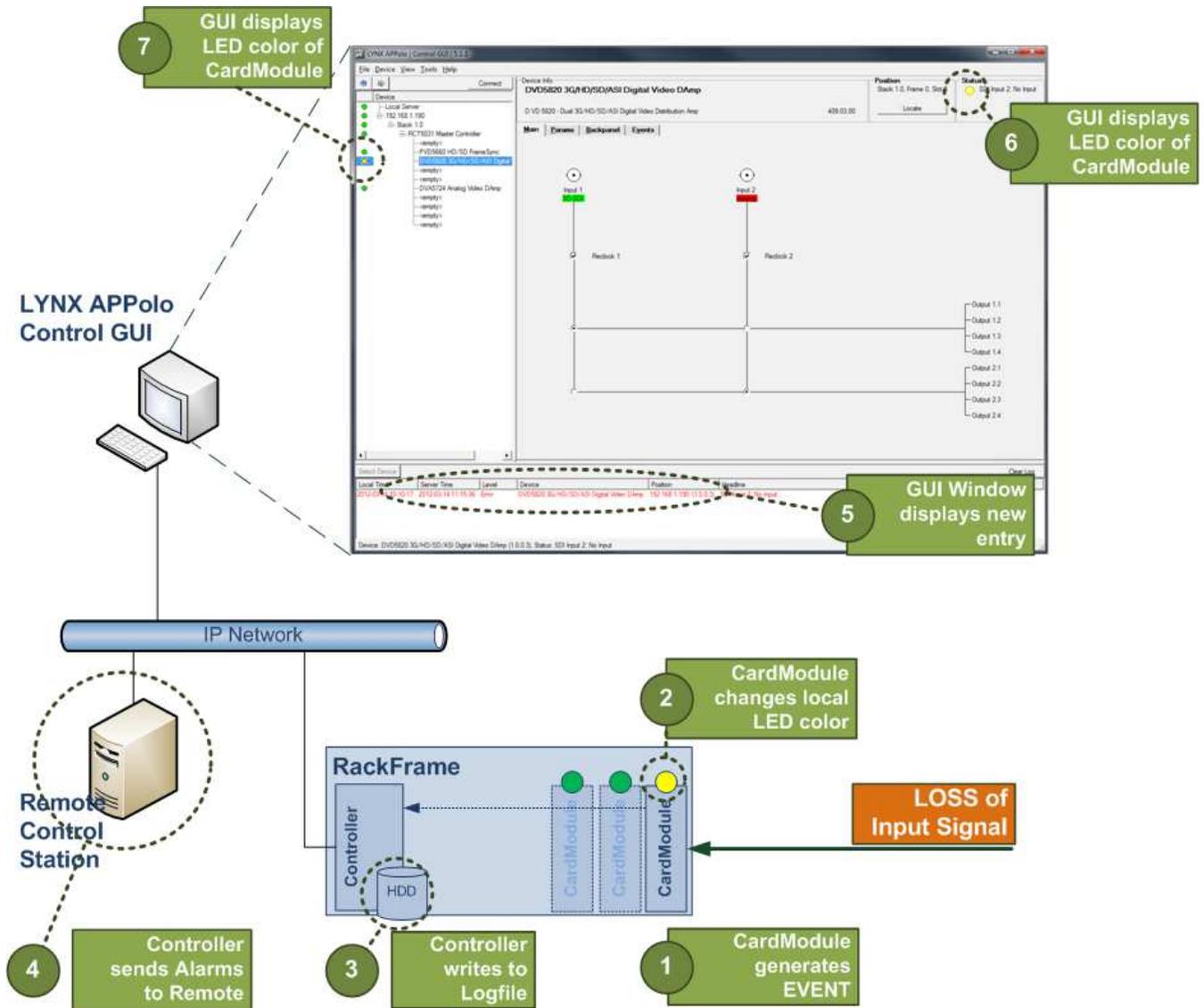


Figure 1: CardModule's Event is propagated in system

2.2 EVENTS should be disabled when irrelevant

If a CardModule with multiple inputs shows a YELLOW or RED color because of a missing input signal that is never expected and thus will never be available in the future, then it is recommended to disable those EVENTS in that CardModule, so that the CardModule shows a GREEN status to indicate a good working condition.

See Figure 2 for an overview illustration of disabling an irrelevant EVENT.

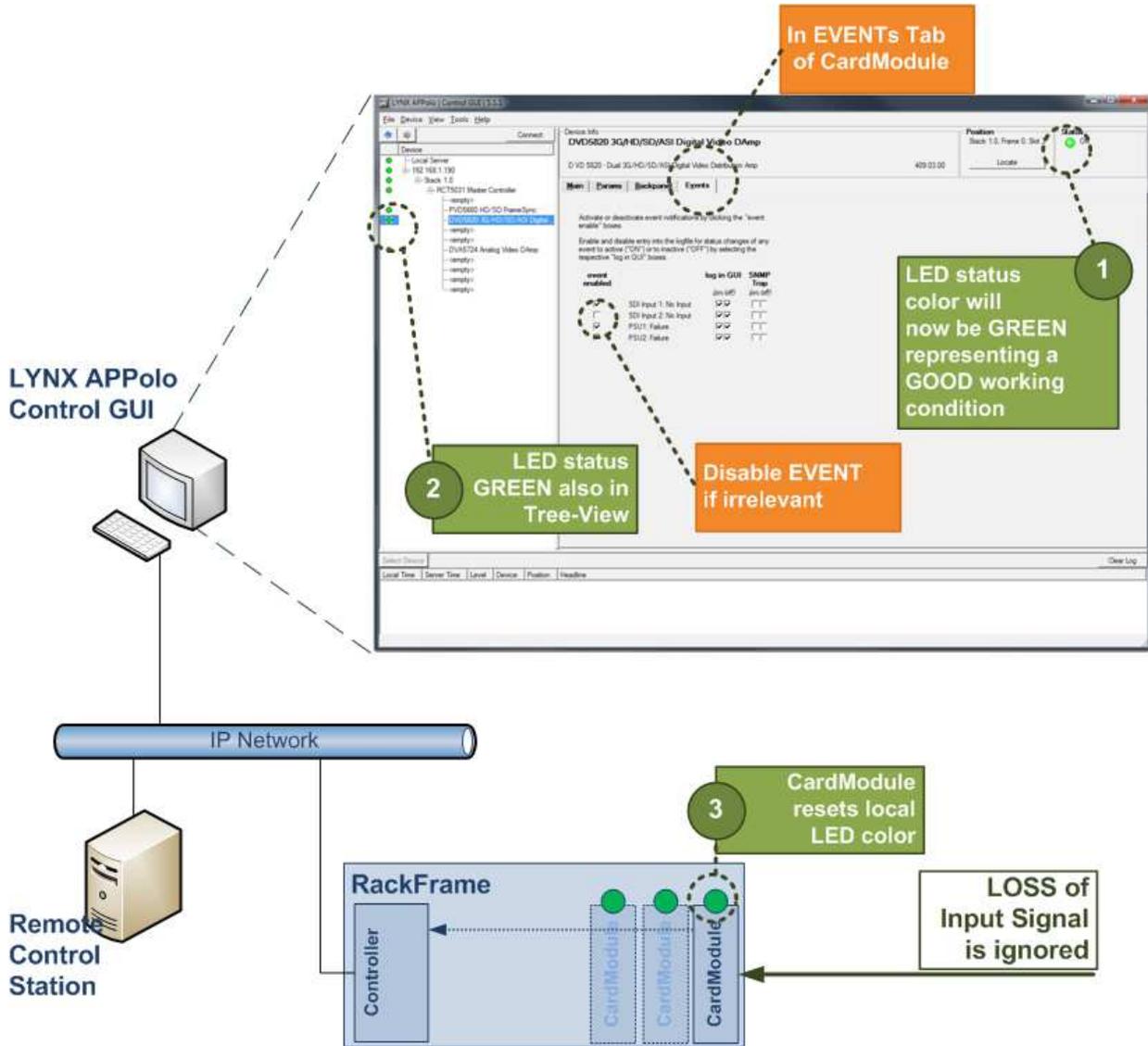


Figure 2: EVENTS should be disabled when irrelevant

2.3 Summary

EVENTs are generated in the CardModule to indicate a problematic condition. Such EVENTs are propagated to various locations in the system.

An EVENT can be disabled if it is declared as "not relevant". This should be done to achieve a GREEN indication for each CardModule when in good working conditions (e.g. if a second input channel is not used at all).

As a consequence: All CardModules show a GREEN status (e.g. in the Tree-View) while in good working condition. If any CardModule ever shows a color which is NOT GREEN, then there is some problem to look after.

3 User Defined Device Tree

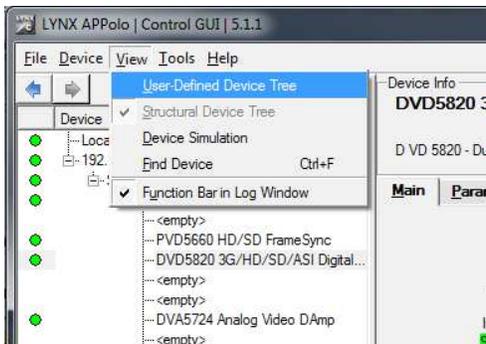
In the LYNX APPolo Control GUI, it is possible to define a User-Defined hierarchical view to all System Components. Any component (e.g. CardModule) can be presented in such a user-defined structure at any level.

The number of levels (groups) is not limited.

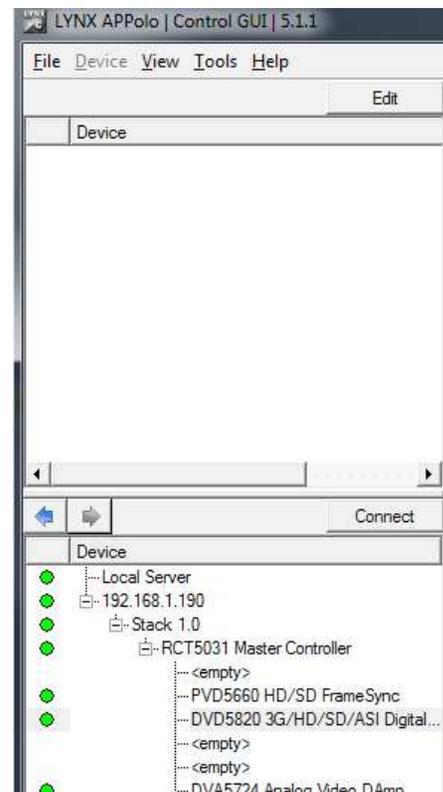
Levels (groups) can be labeled with user-defined names.

This makes it possible to display a collected overview status for a number of CardModules

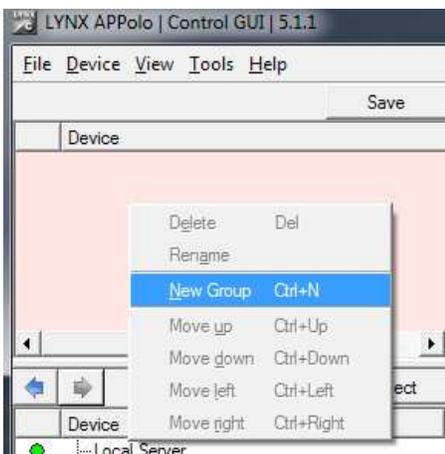
(1) User-Defined-Tree is enabled from Top-Level Menu "View".



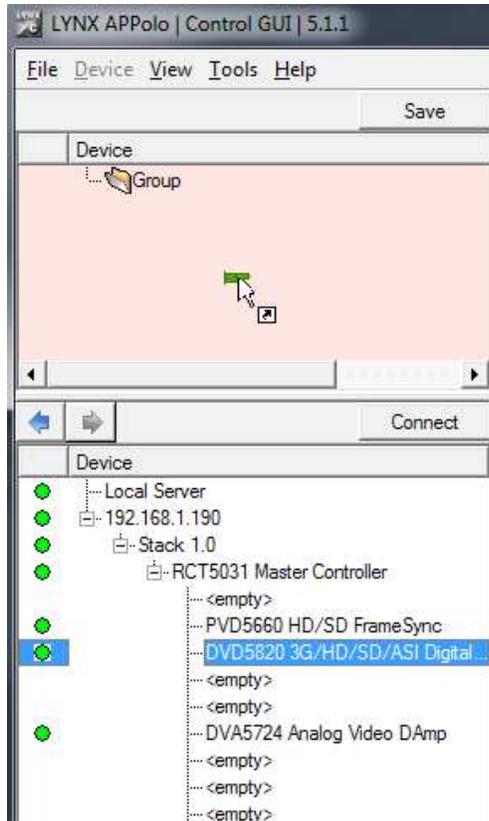
(2) User-Defined-Tree is shown above regular device tree



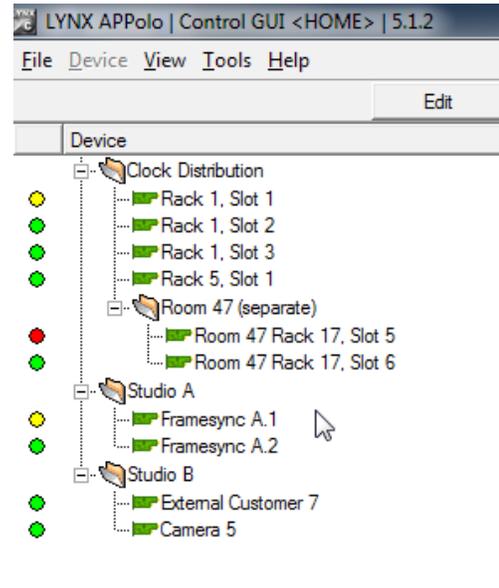
(3) Groups and Subgroups can be added using the RIGHT-Mouse button



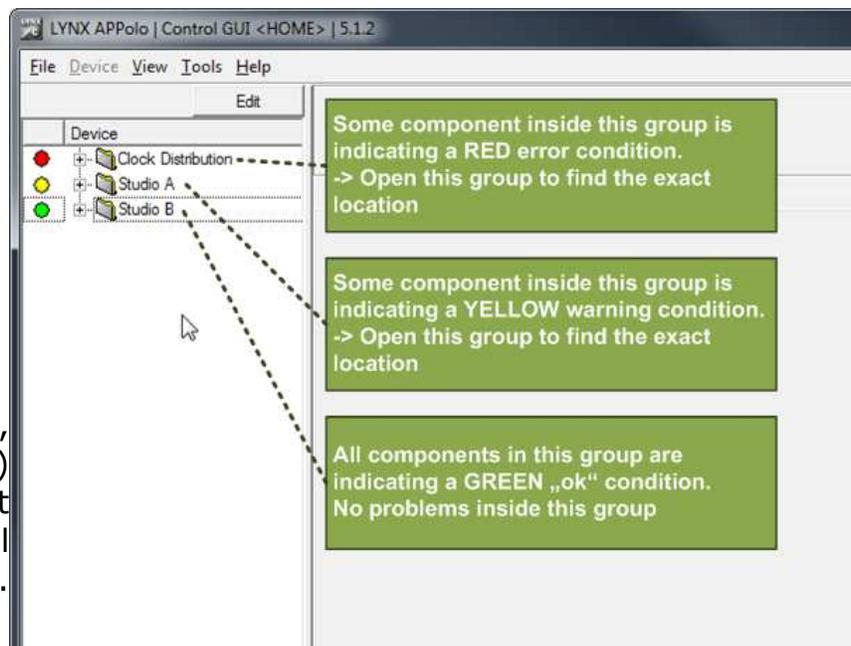
(4) Elements can be added to User-Defined-Tree through Drag-n-Drop from regular tree



(5) Example of a resulting User-Defined-Tree where some components indicate potential problems (YELLOW and RED status)



(6) When collapsed, every level (group) shows the "most critical" color of all contained components.



4 Summary

Every component (i.e. CardModule) in the LYNX infrastructure provides status information to the control system. On an overview level, this status information is visible as a color and a short text. More detailed information is available on request.

Every component can be configured to display the current status as "good working condition" (green color). This will potentially ignore missing input signals etc. by declaring these as "irrelevant".

The LYNX APPolo Control GUI provides the ability to present all components of the infrastructure in a user-defined hierarchical structure. When a group-level in this user-defined structure is displayed in collapsed form, then the "most critical" color inside this group is propagated to the visible "surface".

In combination, the above functions can be used to set up an overview presentation of the complete architecture with very easy visualization of areas with potential current problems. Opening up such areas (groups) will easily lead the user to the actual component which has signaled the warning condition.