Integrated Fire detection and Plena Voice Alarm System

This application note discripes the confuration

1. Introduction

The Bosch Plena Voice alarm system upgrade was introduced among others to answer the need for a direct supervised data connection between Fire detection systems and voice evacuation systems. A combination of the FPA 5000 or FPA1200 fire systems with Plena Voice Alarm system enables full Fire Evac integration. Each system is able to operate standalone and/or in a fluent corporation with the other system.
The fire detection system indicates exactly where the hazard(s) exists. The Plena Voice Alarm can address the different evacuation areas to alert or evacuate the visitors with correct and intelligibility messages.

Advantages of this upgrade:

1) Supervised direct connection between Plena Voice Alarm and FPA fire panels.
   No need anymore to install a lot of supervised wires in-between.

2) You can span large supervised distances by using the Bosch IP –Audio unit that enables a redundant supervised RS-232 tunnel via the Ethernet

3) Plena Open Interface adds 120 virtual contacts, all accessible via one RS-232 interface cable

4) With use of the FPA system, multiple Voice Alarm Controllers can be accessed and synchronized

5) With use of the fire FPA system, multiple Fireman access panels can be added.

This application note will guide you through the software and hardware setup that will enable the integration.

This application note meets the level "advanced users".
Only certified Plena Voice Alarm System users get access to additional support.

2. Hardware and Software

The hardware to be used is described in this chapter.
Minimum requirements:

Hardware

1) 1x Plena Voice Alarm Controller
2) 1x FPA 5000 main panel with one IOS RS-232 DIN rail connected module

Software

3) Plena Voice Alarm firmware v2.16.01
4) Plena Voice Alarm configuration software v2.16.01
5) FPA firmware v2.5.20
6) FPA remote Programming software FSP-5000 – RPS v2.5.34

Figure 1: Plena Voice Alarm System

Figure 2: Fire FPA 5000

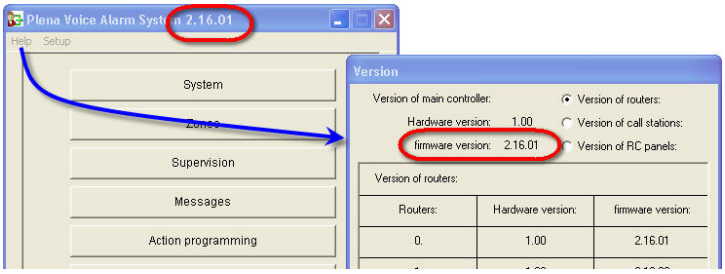

Figure 3:
Plena Configuration software v2.16.01 and Firmware v.2.16.01

3. Configuration

Plena Voice Alarm System

Firmware setup

Figure 4 – PC Plena RS-232 connection

1) After the Rs-232 connection is made, start “BSLoader-p216.exe”
2) This file can be found in the Plena VAS firmware directory
3) The firmware application (figure 5) will be launched
4) Select the correct PC comport
5) Press LBB 1990 Main controller
6) A new window (figure 6) pops-up; This windows shows the settings of the dip switches which could be found at the rear for the Plena Voice Alarm controller. (blue/green arrow figure 4)
7) Put the Dip Switches in the correct position and press “OK”
8) A Dos box (figure 7) appears which informs you about the upgrade process. If it fails, please repeat the upgrade procedure. The system will not be damaged, but it won’t work correct as long as the firmware is not completed correctly.
9) Please follow the application instructions to proceed the complete firmware upgrade.

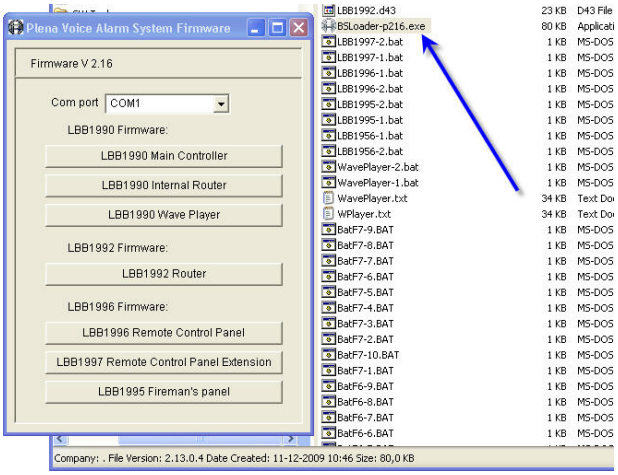

Figure 5: Firmware application

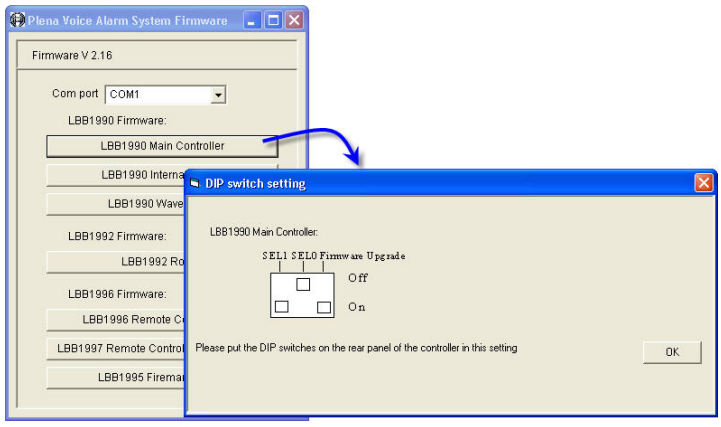

Figure 6: Dip switch settings

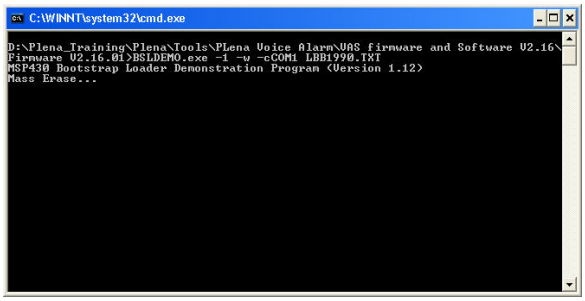

Figure 7 – Firmware upgrading in progress

Software configuration

Plena Voice Alarm – configuration software

The software configuration focuses on connection with the FPA panels.
(For detailed Plena system configuration, a Plena training is advised.)

Note: Do not connect the USB connector before the Plena configuration software (v2.16.01) is installed on you PC. For installation use “Plena_VAS_SETUP_021601.EXE”

Figure 8 – PC Plena USB connection

1) The USB connection (figure 8) can be made after installing the configuration software.

2) Switch on the Voice Alarm Controller

3) Start the configuration software from your “start – programs” menu of with the icon which is installed on your desktop. (Figure 8)

4) A window as shown in Figure 9 will appear.

5) De default password to enter the software is “12345678”. (figure 9)

6) Press “OK” to start the configuration software

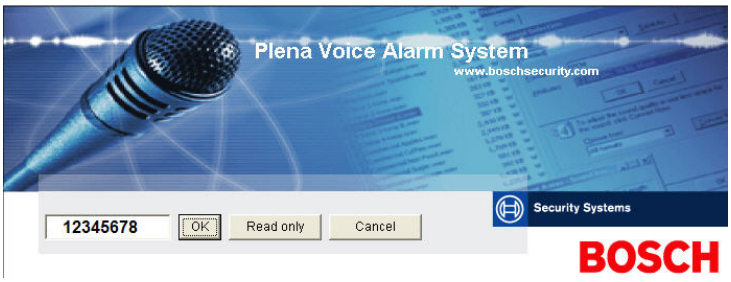

Figure 9 – Voice Alarm configuration startup screen

7) Press the “System” button to open the system configuration menu (figure 10)

8) Check the “Enable Soft Triggers (RS232)” as shown in figure 10 and press save.
Close the window.

9) Press “Action programming” to configure the Emergency state behavior and the soft triggers (virtual triggers). (figure 11)

10) Select the Tap “Front panel” and uncheck “after EMG TRG release, the system remains in EMG state” and save it (figure 11)

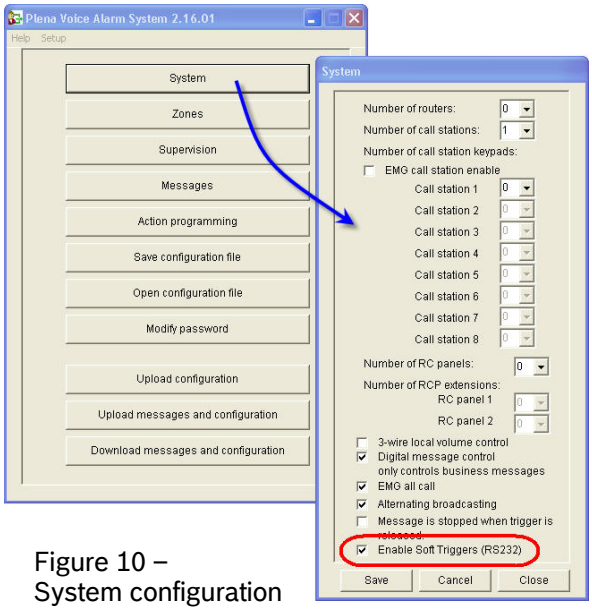

Figure 10 –
System configuration

11) Select the “Soft trigger (RS-232)” tap and select for each trigger with message should be played.
You can configure up to 120 triggers
Set the priority of the trigger and choose which zones are affected. (figure 12)

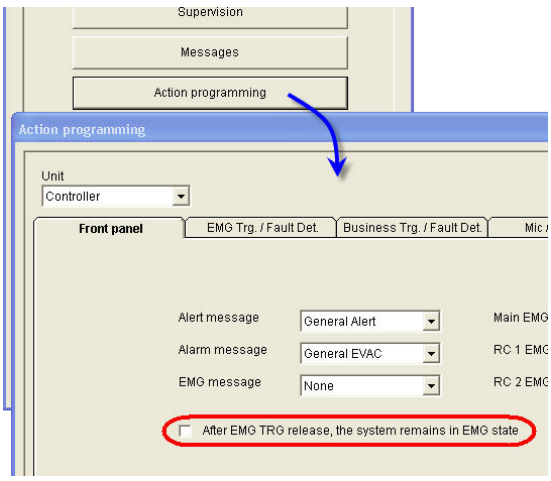

Figure 11 – EMG state behavior setup

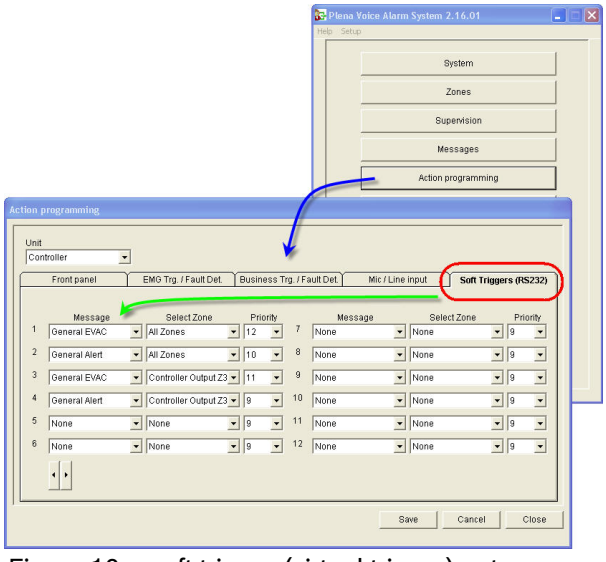

Figure 12 – soft trigger (virtual trigger) setup

The specific settings for communication with the FPA panel are now set.

Plena Voice Alarm – Virtual Panel v2.00

The behavior of the soft triggers can be tested with the Virtual Panel (demo) program.
No special installation for this demo program is required.
The RS-232 cable must be connected as shown in figure 4.

1) Start Virtual Panel Program v2.00 (figure 13)

2) Select the correct PC comport and "Press connect"

3) Select Virtual trigger 1-60 and check "Virtual Trigger 1" The configured soft trigger function shall be activated. The trigger is active as long as the trigger is checked.

4) All events are logged in the event log field. Be aware, the shown logs are not stored to a file. You cannot use this program for operational logging.

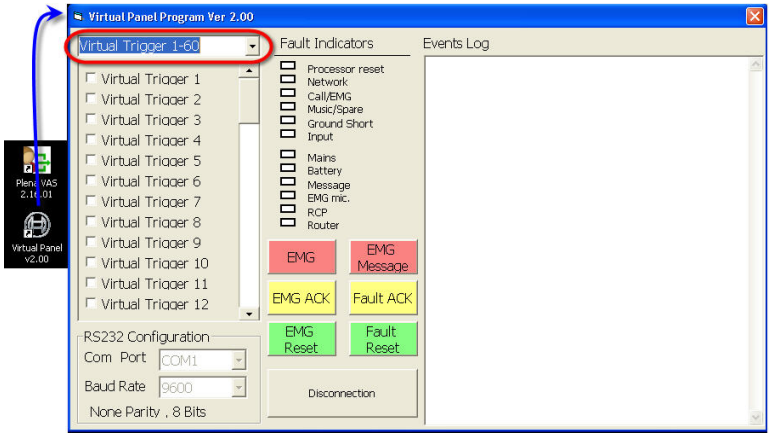

Figure 13 – Virtual panel v2.00 program

Note: The virtual panel program is made to test the trigger behavior without having a full system setup. The communication acts as if the FPA5000 or 1200 panel sets or resets the virtual triggers from the voice alarm system. The communication between the Virtual Panel PC program and the Plena Voice Alarm system is not supervised. Disconnecting the RS-232 interface shall not result in a network error.

Fire Panel software - FSP-5000-RPS 2.5.34 – configuration

1) The fire software FSP-5000-RPS 2.5.34 must be installed on your PC.

2) Start the software and login.
(Default username: admin, default password : default)

3) Virtual triggers are implemented in panel firmware FPA-1200 v1.0 and FPA-5000 v2.5.
Select “New” from the menu and select a virtual trigger activated panel.

4) Steps 5 – 8 are normally automatic filled in if an online connection is made with the FPA panel. (auto detection of the modules). In case of an online connection, go to step 8

5) Select “Nodes” (figure 16) and select FPA-5000 (or 1200)

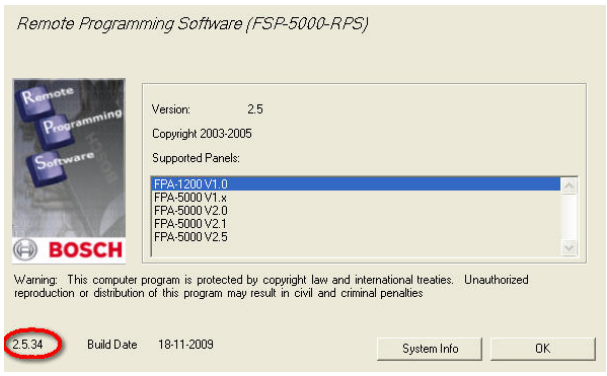

Figure 14 – FSP–5000-RPS

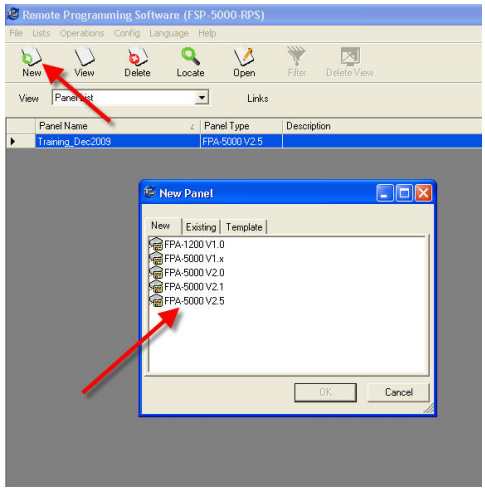

Figure 15 – FPA (FW) Selection

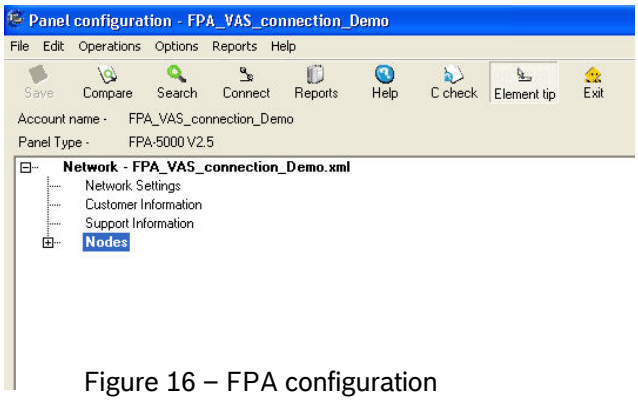

Figure 16 – FPA configuration

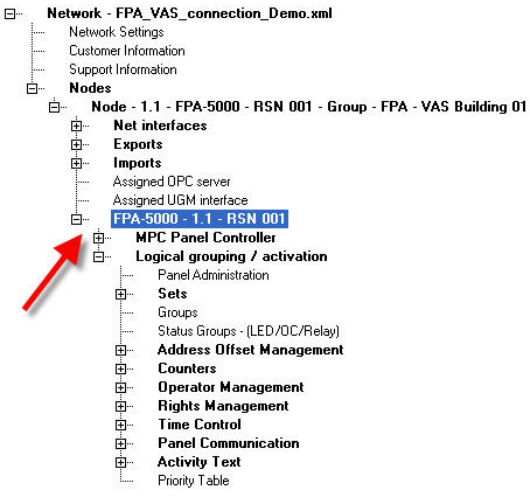

Figure 17 – FPA node configuration

6) After selection, the item panel (right), is filled with all modules that may appear in the FPA system.
For connection with the Voice Alarm System, a RS-232 connection is needed.
Select the IOS 232 – I/O RS232 module and drag and drop it to the FPA-5000 panel as shown in figure 18.

7) The IOS 232 module appears in the FPA connection tree.

8) Select the IOS 232 module and open the tree. Select “RS232”, as shown in figure 19, and click with the right mouse button to select the Plena Voice Alarm which as connected RS-232 device.

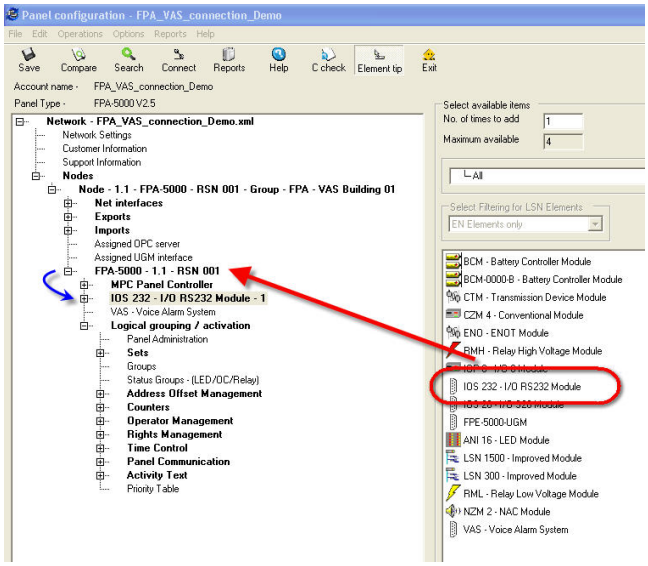

Figure 18 – FPA modules

9) When the Voice Alarm controller is added, the device setting ”virtual” trigger” is shown in the item panel. (right panel)

10) Select “virtual trigger” drag and drop it on the “VAS - Voice Alarm System” item in the network connection panel. (left panel)

11) The First Virtual Trigger is created; Repeat step 9-10 until all RS-232 triggers as configured in the Voice Alarm System are created. (figure 21)

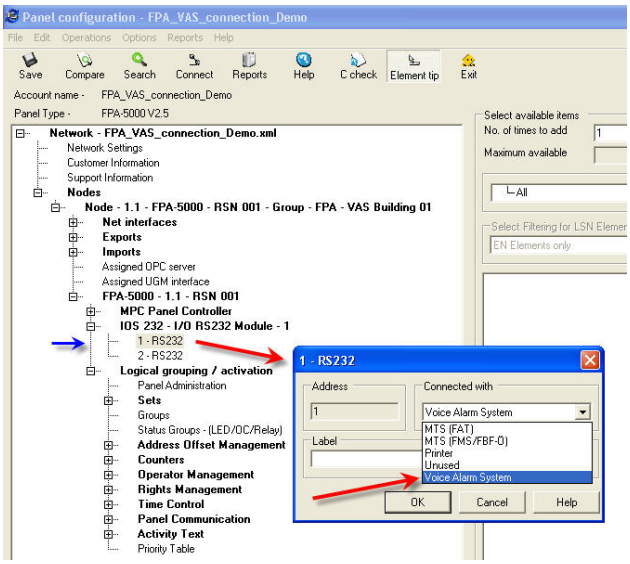

Figure 19 – FPA - Voice Alarm connection setup

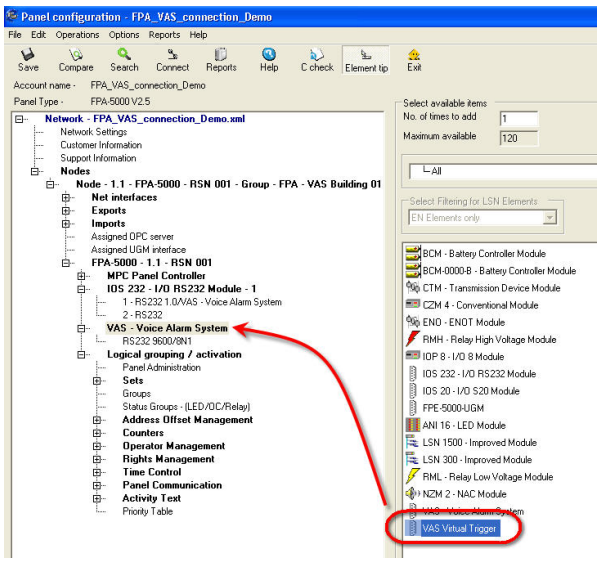

Figure 20 – FPA Virtual trigger setup

12) Set the group address, the device address, the trigger number and set the trigger to NAC/Signaling circuit. An “Event Rule” for the group shall be created automatically. Give the trigger a logical name (figure 22)

13) Repeat the step for every virtual trigger. (Use another group for each virtual trigger)

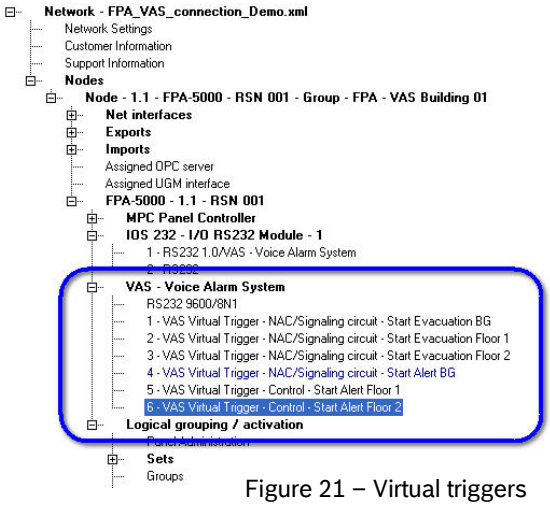

Figure 21 – Virtual triggers

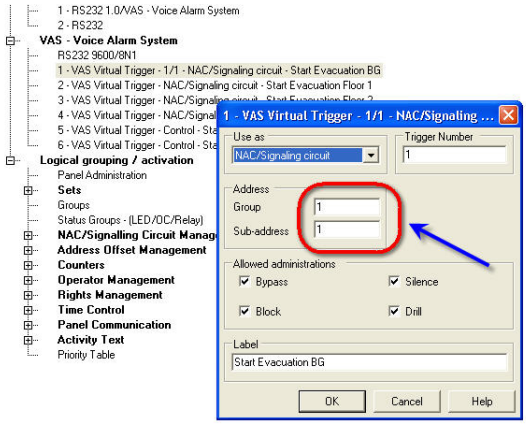

Figure 22 – Trigger set-up

The Virtual triggers are available for activation with the FPA when step 13 is finished. Future FPA programming requires FPA programming knowledge.

4. Definitions, acronyms and abbreviations

AN	Application note
VAS	Voice Alarm System
MIC	Microphone level
Pcs	Pieces
EMG	Emergency
RS-232	Serial communication interface
Open Interface	Communication protocol to control the VAS
BGM	Background music
VOX	Voice activate function
Mic.	Microphone
FPA	Fire Panel

5. Special Note Open Interface

The Plena Voice Alarm System is provided with an Open interface
With the introduction of v2.15 the open interface has been changed and is not downwards compatible to versions lower than v2.15.
Future versions > v2.15 are downwards compatible to v2.15, unless specified others.
The open interface from v2.15 got a major change to enable the integration with the Bosch Fire fireman panels FPA1200 and FPA5000.

6. About

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