

# SOFTWARE SOLUTION

FOR STATIONARY DISPLAYS AT  
BUS & TRAM STATION

PACIM DPI – DYNAMIC PASSENGER  
INFORMATION

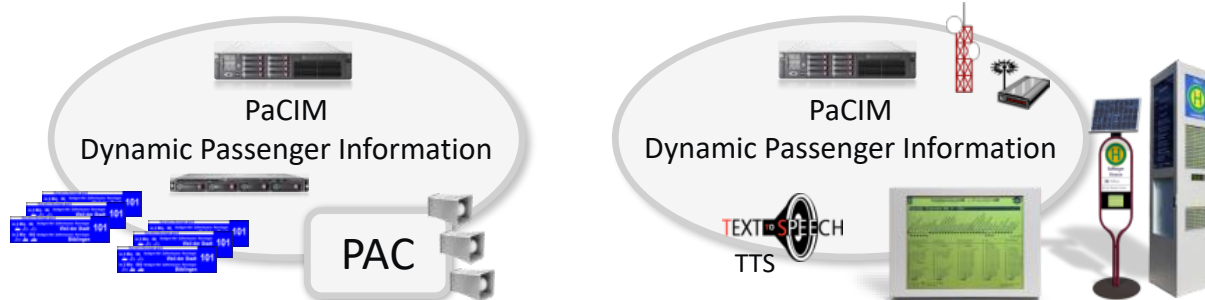
# OVERVIEW

- The PaCIM System displays real time bus ETA prediction data, scheduled bus arrival information, and other transit service-related messages on different type of signs installed in various shelters and stops

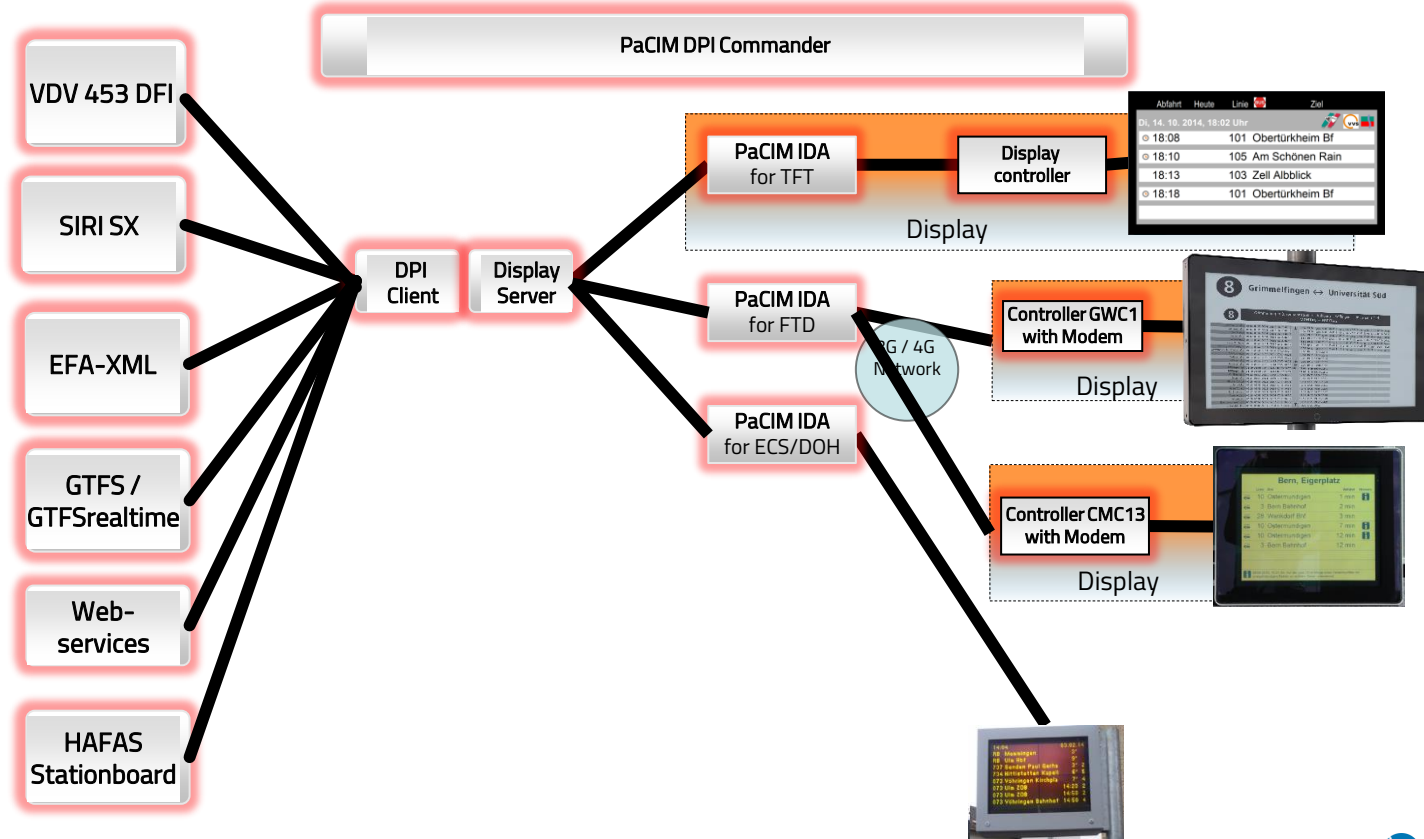
# OVERVIEW

## PaCIM DPI: Manufacturer independent addressing of output devices

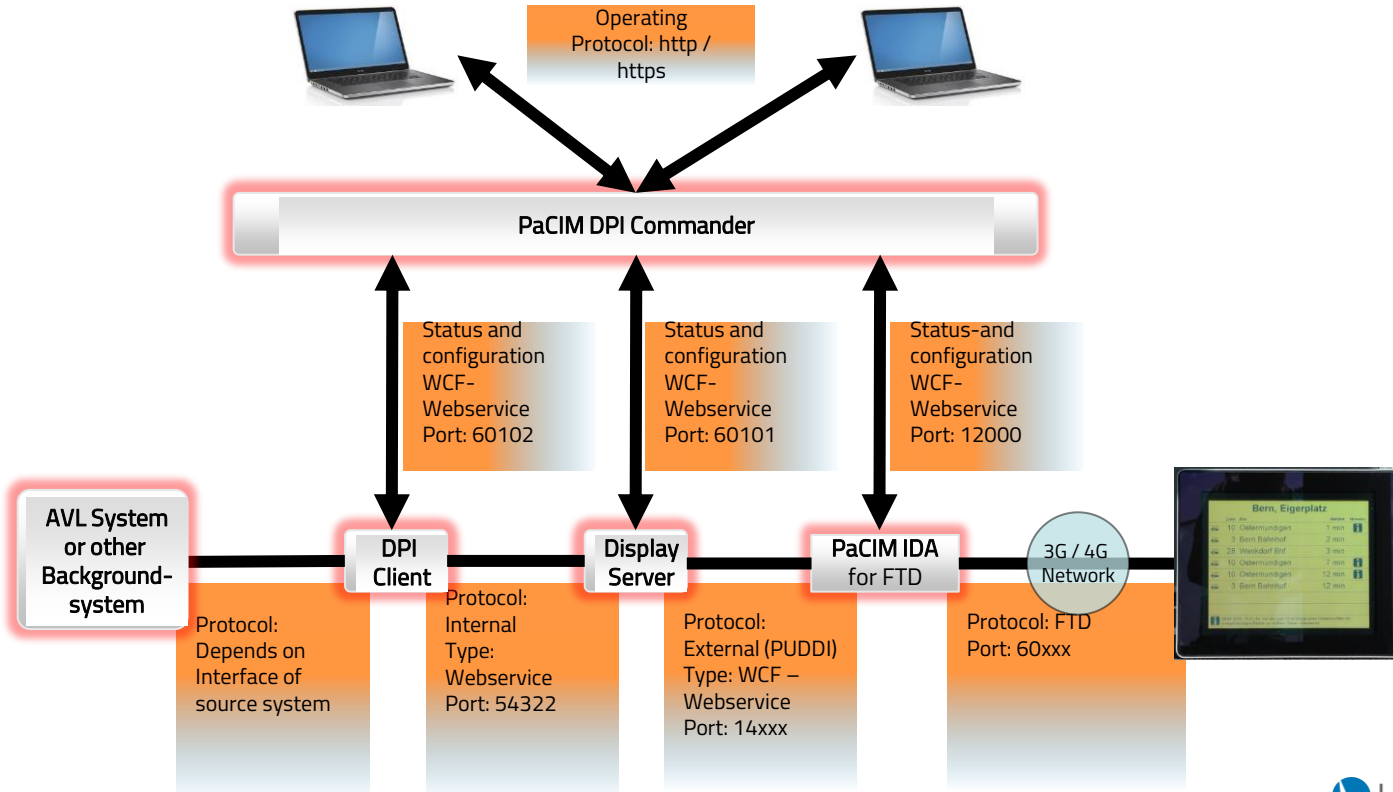
- PaCIM DPI can address all kinds of output devices based on standard interfaces and protocols.
- PaCIM DPI gets real time data from DDMS or ITCS.
- Definition of timetable layouts (fonts, colors, etc.).
- Activation of special announcements / tickers.
- Text to speech (TTS) – generation of automated acoustic announcements.
- Surveillance of output devices.



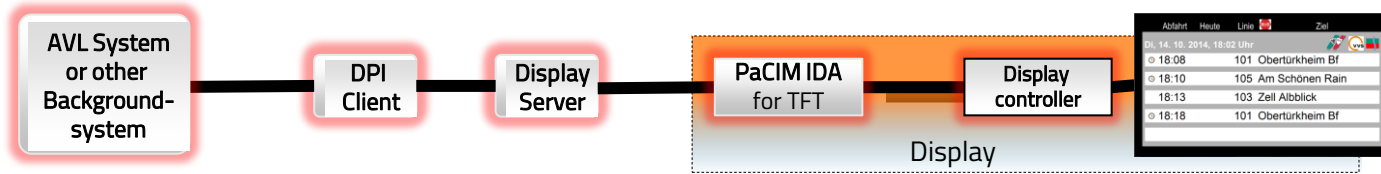
# OVERVIEW



# COMMUNICATION OVERVIEW

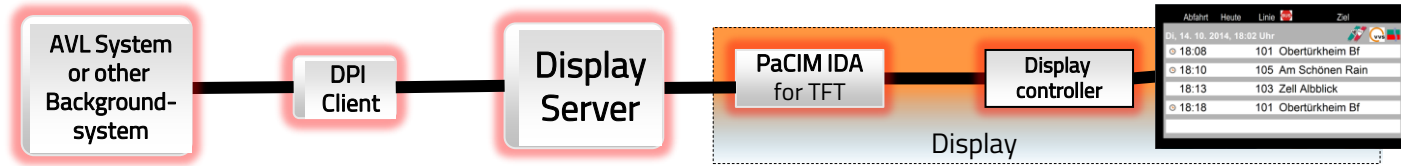


# COMMUNICATION



PaCIM IDA	PaCIM Intelligent Display Adapter
Variants	<ul style="list-style-type: none"> <li>- PaCIM IDAApp – App with GUI (Status of devices, looking at the communication between server and devices)</li> <li>- PaCIM IDAService – Same as PaCIM IDAApp but without GUI Interface</li> <li>- PaCIM IDAView – GUI for IDAService / IDAApp</li> </ul>
Operating tasks	<p>Remote</p> <ul style="list-style-type: none"> <li>- Status of the signs - DPI Commander and PaCIM IDAView</li> <li>- Download of Logfiles / other files from the signs- PaCIM IDAView</li> <li>- Upload of configuration files to the signs – PaCIM IDAView</li> </ul> <p>Local (based on files)</p> <ul style="list-style-type: none"> <li>- Update of multiple signs (based on directory structure)</li> <li>- IDA-Service configuration (adding of new devices, Changing of server configuration)</li> <li>- Logfiles</li> </ul>

# COMMUNICATION



## Display Server

### Operating tasks

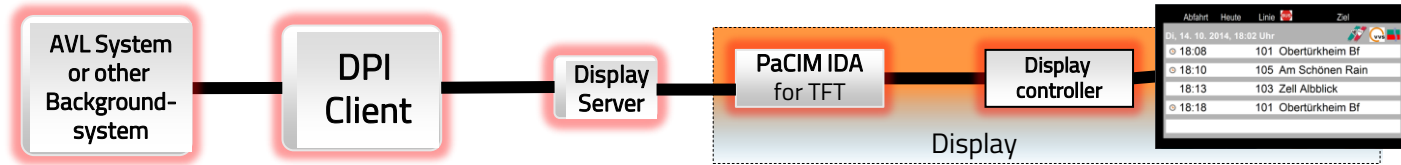
#### Remote

- Status of signs, enabling / disabling - DPI Commander, SQL Mgmt Studio
- Configuration of signs – SQL Mgmt Studio
- Reload configuration of Service – DPI Commander

#### Local

- Layouts (Filebased)
- Logfiles

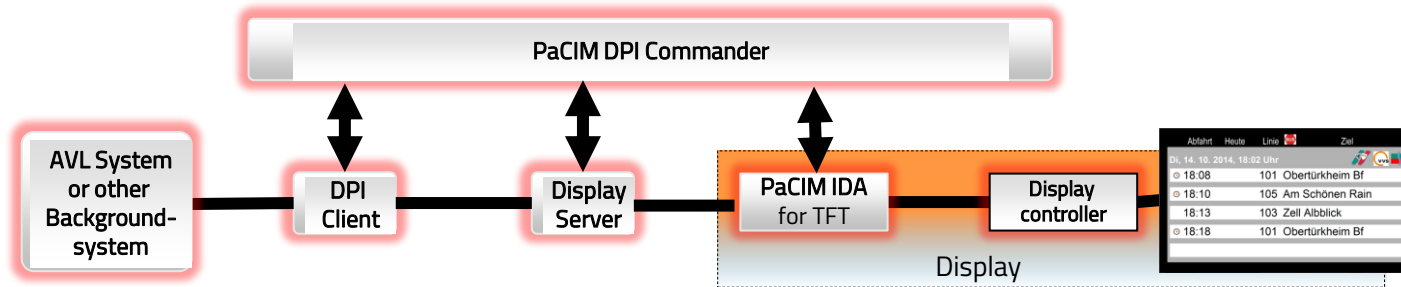
# COMMUNICATION



DPI Client	Dynamic Passenger Information Client
Operatingtasks	<div>Local (based on files)<ul style="list-style-type: none"><li>- Configuration of new interfaces</li><li>- Maintaining of configured interfaces</li><li>- Adding / changing of subscriptions</li></ul></div> <div>Local<ul style="list-style-type: none"><li>- Logfiles</li></ul></div>



# COMMUNICATION



## PaCIM DPI Commander

### Description

Web based GUI to the different components of PaCIM DPI

#### Overview of

- the state of the configured signs
- the information sent to the signs and displayed on the signs
- received information from the source systems

Possibility to send special text information to the signs (depending on the active layouts)

Management of the signs

# USER INTERFACE

- Web based GUI to view and manage the different components of display
- Rudimental overview with the most important status information of the system



# DASHBOARD


PaCIM DPI.Commander

Monitor Messages Announcement Configuration Components User/Roles Hello LTG-Veenhues-en

PaCIM dashboard

LTG-UL

LTG-UL



PaCIM.Dpi

Server

Connected

Subscriptions

✓


✓

✗

(1/1)

(11/11)

(0/0)



PaCIM.Ida

Server

Indicator

✓

⚠


(1/1)

(2/11)

Status/Connection is OK.

No data available or no connection.

There are problems - some items need to be checked.





# MONITOR ALL SIGNS – TABLE VIEW

PaCIM DPI.Commander **Monitor** Messages Announcement Configuration Components User/Roles Hello LTG-Veenhues-en

**Table view** Map view Event log

Show 10 entries Search:

Device ID	Device name	Node	Operating mode	State
AARAU01	General-Guisan	CH-AARAU	DISPLAY	normal
AARAU02	Küttigen, Kreuz	CH-AARAU	DISPLAY	normal
BERGLEN01	Berglen-Oppelsbohm	VVS	DISPLAY	normal
BVG071	Schönweide/Sterndamm	BVG	DISPLAY	normal
CHUR051	Surlej, Corvatschbahn	CHUR	DISPLAY	normal
DAUN01	ZOB 1	DAUN	DISPLAY	normal
DAUN02	ZOB 2	DAUN	DISPLAY	normal
HORB00	ZOB, Übersichtsanzeiger	HORB	DISPLAY	normal
HORB01	ZOB, Steig 1	HORB	DISPLAY	normal
HORB02	ZOB, Steig 2	HORB	DISPLAY	normal

Showing 1 to 10 of 31 entries Previous 1 2 3 4 Next

**Schönweide/Sterndamm**

State Display Journeys

Update state

Show 10 entries Search:

Parameter	Value	Unit
Display Health	OK	
FileSyncState	Synchronized	
FileSyncTime	2019-11-05 15:06:49	
Firmware version	1.1.1	
IdaDspConn	online	ConnectionState
Network connection	CONNECTED	
Operating mode	TIMETABLE	
Signal quality BER	1	
Signal quality RSSI	21	
Temperature	12	centigrade

Showing 1 to 10 of 12 entries Previous 1 2 Next

# STATUS INFORMATION

By choosing a sign in the map (or list) the detailed status can be shown, e.g.

- Network connection (online-/offline)
- Read back of the display content
- Display health status
- Temperature
- Battery status  
(for autarkic signs)
- Firmware version
- and many more

**Schönweide/Sterndamm**

State Display Journeys

Update state

Show 10 entries Search:

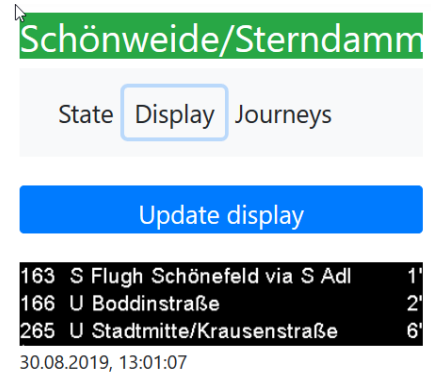
Parameter	Value	Unit
Battery capacity	100	%
Display Health	OK	
DspSrvCtrl	online	ConnectionState
DspSrvData	online	ConnectionState
Ext. Memory Free	0	KB
Ext. Memory Space	0	KB
FileSyncState	Synchronized	
FileSyncTime	2019-09-06 12:06:17	
Firmware info	Firmware GWC1-FTD-GV196-FR102-v1.1.1	
Firmware version	1.1.1	

Showing 1 to 10 of 21 entries

Previous 1 2 3 Next

# DISPLAY TAP

In the **Display** tab, you will find the last screen content that was requested from the sign:



# JOURNEY TAP

In the **Journeys** tab, you will find the departure / arrival information that is managed by the selected sign:

Schönweide/Sterndamm				
State Display Journeys				
Update journeys				
	Departure	Line	Destination	Delay
➡	10:22	163	S Flugh Schönefeld via S Adlershof	
➡	10:23	166	U Boddinstraße	
➡	10:27	265	U Stadtmitte/Krausenstraße	
➡	10:42	163	S Flugh Schönefeld via S Adlershof	
➡	10:43	166	U Boddinstraße	
➡	10:47	265	U Stadtmitte/Krausenstraße	
➡	11:02	163	S Flugh Schönefeld via S Adlershof	
➡	11:03	166	U Boddinstraße	
➡	11:07	265	U Stadtmitte/Krausenstraße	
➡	11:22	163	S Flugh Schönefeld via S	



# EVENT LOG

PaCIM DPI.Commander									
<div>Monitor Messages Announcement Configuration Components User/Roles Hello LTG-Veenhues-en</div>									
<div>Table view Map view <b>Event log</b></div>									
<div>Show 10 entries Search: <input type="text"/></div>									
Timestamp (UTC)	Type	Tenant	Causer	Application	Concerns	Action	Old content	New content	
2019-11-04T18:04:26.05	User	LTG-UL	LTG-Veenhues-en	DPI.Commander		Login			
2019-11-04T10:45:34.843	User	LTG-UL	LTG-Veenhues-en	DPI.Commander		Login			
2019-11-04T10:39:10.353	User	LTG-UL	LTG-Veenhues-en	DPI.Commander		Login			
2019-11-04T10:31:15.797	User	LTG-UL	LTG-Veenhues	DPI.Commander		Login			
<div>Previous 1 Next</div>									

Information on DPI Commander errors as well as on activities initiated on specific times and by specific users.

# MESSAGES

PaCIM DPI.Commander      Monitor **Messages**    Announcement    Configuration    Components    User/Roles    Hello LTG-Veenhues-en

     Search:

Activ	Type	Prio	From	To	Message	Action
<input checked="" type="checkbox"/>	#infoLine	9	01.01.2018 11:37	06.04.2020 11:37	*** Testnachricht - Testnachricht ***	<input type="button" value="edit"/> <input type="button" value="send"/> <input type="button" value="reply"/> <input type="button" value="delete"/>
<input checked="" type="checkbox"/>	#infoLine	1	13.04.2018 12:49	14.04.2020 12:49	Bitte achten Sie auf ihr Gepäck	<input type="button" value="edit"/> <input type="button" value="send"/> <input type="button" value="reply"/> <input type="button" value="delete"/>
<input checked="" type="checkbox"/>	#infoLine	1	06.07.2018 16:01	07.07.2020 16:01	*** Wegen Umbauarbeiten kann es zu Verspätungen kommen ***	<input type="button" value="edit"/> <input type="button" value="send"/> <input type="button" value="reply"/> <input type="button" value="delete"/>
<input checked="" type="checkbox"/>	#infoText	5	09.09.2019 08:48	10.09.2019 08:48	Information platform 1	<input type="button" value="edit"/> <input type="button" value="send"/> <input type="button" value="reply"/> <input type="button" value="delete"/>
<input checked="" type="checkbox"/>	#StationText	1	27.05.2018 13:27	28.05.2020 13:27	Ortsmitte, Oppelsbohm	<input type="button" value="edit"/> <input type="button" value="send"/> <input type="button" value="reply"/> <input type="button" value="delete"/>
<input checked="" type="checkbox"/>	#StationText	1	03.07.2018 18:26	04.07.2020 18:26	Gesundheitszentrum	<input type="button" value="edit"/> <input type="button" value="send"/> <input type="button" value="reply"/> <input type="button" value="delete"/>
<input checked="" type="checkbox"/>	#StationText	1	25.07.2018 08:33	26.07.2020 08:33	Surlej, Corvatschbahn	<input type="button" value="edit"/> <input type="button" value="send"/> <input type="button" value="reply"/> <input type="button" value="delete"/>
<input checked="" type="checkbox"/>	#StationText	1	25.07.2018 08:34	26.07.2020 08:34	Abfahrten ZOB Steig 1	<input type="button" value="edit"/> <input type="button" value="send"/> <input type="button" value="reply"/> <input type="button" value="delete"/>
<input checked="" type="checkbox"/>	#StationText	1	21.09.2018 07:28	22.09.2020 07:28	ZOB Weinheim	<input type="button" value="edit"/> <input type="button" value="send"/> <input type="button" value="reply"/> <input type="button" value="delete"/>
<input checked="" type="checkbox"/>	#StationText	1	25.10.2018 11:25	26.10.2020 11:25	Abfahrten ZOB Steig 2	<input type="button" value="edit"/> <input type="button" value="send"/> <input type="button" value="reply"/> <input type="button" value="delete"/>

Showing 1 to 10 of 20 entries      Previous    1    2    Next

Filter

☐ All

- ☐ LTG Hosting
  - ☐ BVG Berlin
    - ☐ Schönweide/Sterndamm
  - ☐ Aarau
    - ☐ General-Guisan
    - ☐ Küttigen, Kreuz
  - ☐ Baden-Wettingen
    - ☐ Baden, Schlossbergplatz
    - ☐ Baden, Lindenplatz
    - ☐ Baden, Cherne
  - ☐ Chur St. Moritz
    - ☐ Surlej, Corvatschbahn
  - ☐ Daun
    - ☐ ZOB 1
    - ☐ ZOB 2
  - ☐ Hörb
    - ☐ ZOB, Übersichtsanzeiger
    - ☐ ZOB, Steig 1
    - ☐ ZOB, Steig 2
    - ☐ ZOB, Steig 3
    - ☐ ZOB, Steig 4
    - ☐ ZOB, Steig 5
    - ☐ ZOB, Steig 6
    - ☐ ZOB, Steig 7
  - ☐ OREG Michelstadt

- The page shows an overview of existing text messages and their details. You can also check and change their attachment to sign

# ADDING OR EDITING TEXT MESSAGES

- Add new text
- Edit existing text
- Priority of the text message when multiple text messages of the same **Type** are attached to the same sign
- Start and end dates to define the period of validity for displaying the text message.
- **Showtime and Showtime editor:** allocation message for particular day / particular time of the day

The form is titled 'ADDING OR EDITING TEXT MESSAGES' and contains the following fields and controls:

- Activ:** A checkbox that is currently checked.
- Layout tag:** A text input field with a dropdown arrow on the right.
- Prio:** A text input field containing the value '5' with a dropdown arrow on the right.
- From:** A text input field containing the date and time '2019-11-03 15:40'.
- To:** A text input field containing the date and time '2019-11-04 15:40'.
- Showtime:** A text input field containing the string '\*.\*.\* 00:00:00;1.00:00:00;EveryDay'. To its right is a dark grey button labeled 'Showtime editor'.
- Message:** A large text input field for the message content.
- Buttons:** At the bottom left, there are two buttons: a green one with a white checkmark and a red one with a white 'X'.

# CONFIGURATION

Show  entries Search:

Active	Device ID	Device Name	Action
<input checked="" type="checkbox"/>	DEMO3	C03 Alexandria Mirror	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	EINK03	E03 Alexandria	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	EINK04	E04	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	E32_PROTO_1	PROTO1 497	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

### E32\_PROTO\_3

Subscriptions

Lines

<input type="checkbox"/>	Austin-497	Austin_497_Swiftly
<input type="checkbox"/>	Austin-5538	Austin_Crestview
<input checked="" type="checkbox"/>	Austin-5538-0	Austin-5538 Direction 0
<input checked="" type="checkbox"/>	Austin-5538-1	Austin-5538 Direction 1

☒ ☐










The configuration of a bus stop consists of

- Configuration of the sign
- making / selecting the layout / layout group for that sign
- configuring the subscription(s) for that bus stop
- assigning the subscription(s) to the sign

# CONFIGURATION OF SIGN

Search:










BVG071

vice Name	Action	Subscriptions	Lines
önweide/Sterndamm	  	<input checked="" type="checkbox"/>	105687 Schönweide / Sterndamm Linien 166, 265
ieral-Guisan	  	<input checked="" type="checkbox"/>	107576 Schönweide / Sterndamm Linien 160, 163
hagen-Kreuz	  		

Red arrows point from the 'Action' column to the 'Subscriptions' column.

Search:

BVG071

	Action	Subscriptions	Lines
rndamm	  	163	163
	  	166	166
	  	265	265

Red arrow points from the 'Action' column to the 'Subscriptions' column. The 'Lines' tab is highlighted with a red box.

# CONFIGURATION OF LAYOUT SET SELECTION

PaCIM DPI.Commander    Monitor   Messages   Announcement   **Configuration**   Components   User/Roles   Hello LTG-Veenhues-en

Signs   **Layoutset selection**   Image selection   Layout parameter


## Layoutset selection

Display  
Show  entries  
Search:

Device name	Device type
BiStable Entwicklung	CHLCD800x640
BiStable Test gbr	CHLCD800x640
<b>BiStable01</b>	<b>default</b>
BiStable05, Eingang Gebäude	CHLCD800x640
BiStable06, Entwicklung	CHLCD800x640
E4, vor Gebäude	default
ePaper 32" 3 Inbetr. Landscape	EPAPER2560x1440
ePaper 32" 4 Florian CS 2.0	EPAPER1440x2560

**default**

- ☐ LYT-DSP001
  - DayLayoutDSP001 - DSP001-Layout for day light
- ☐ LYT-DSP002
  - DayLayoutDSP002 - DSP002-Layout for day light
- ☐ LYT-EINK01
  - DayLayoutEINK01 - EINK01-Layout for day light
- ☒ LYT-EINK02
  - DayLayoutEINK02 - EINK02-Layout for day light
- ☐ LYT-EINK03
  - DayLayoutEINK03 - EINK03-Layout for day light
- ☐ LYT-EINK04
  - DayLayoutEINK04 - EINK04-Layout for day light

Page 0 

801  
N Lamar S Congress  
803  
Burnet/S Lamar

Page 1

Page 2

Page 3

# CONFIGURATION OF IMAGE SELECTION

PaCIM DPI.Commander    Monitor   Messages   Announcement   **Configuration**   Components   User/Roles   Hello LTG-Veenhues-en

Signs   Layoutset selection   **Image selection**   Layout parameter

## Image selection

Filter

☒ All

▼ ☒ LTG Ulm

- ☐ BiStable Test gbr
- ☒ BiStable Entwicklung
- ☐ BiStable05, Eingang Gebäude
- ☐ BiStable06, Entwicklung
- ☐ E4, vor Gebäude
- ☐ BiStable01
- ☐ ePaper32" 2 Messe Portrait
- ☐ ePaper 32" 3 Inbetr. Landscape
- ☐ ePaper 32" 4 Florian CS 2.0
- ☐ ePaper 32" 5 Inbetr. Portrait
- ☐ ePaper 32" 6 Johannes Portrait

☐ SampleImage\_1.png    ☒ SampleImage\_2.png    ☐ SampleImage\_3.png

Sample Image 1  
Your text and information

Sample Image 2  
Your text and information

Sample Image 3  
Your text and information

Page number

→ ☒ 1    ☐ 2    ☐ 3    ☐ 4    ☐ 5    ☐ 6    ☐ 7    ☐ 8

☒

# CONFIGURATION LAYOUT PARAMETER

PaCIM DPI.Commander      Monitor   Messages   Announcement   **Configuration**   Components   User/Roles   Hello LTG-Veenhues-en

Signs   Layoutset selection   Image selection   **Layout parameter**

Filter


Standard parameters   Expert parameters

☒ All


▼ ☒ LTG Ulm


- ☐ BiStable Test gbr
- ☒ BiStable Entwicklung
- ☐ BiStable05, Eingang Gebäude
- ☐ BiStable06, Entwicklung
- ☐ E4, vor Gebäude
- ☐ BiStable01
- ☐ ePaper32" 2 Messe Portrait
- ☐ ePaper 32" 3 Inbetr. Landsc
- ☐ ePaper 32" 4 Florian CS 2.0
- ☐ ePaper 32" 5 Inbetr. Portrai
- ☐ ePaper 32" 6 Johannes Port

<   >

Cycle time      60

Audio profile

Audio timespan      Audio volume





# CONFIGURATION LAYOUT PARAMETER

PaCIM DPI.Commander      Monitor   Messages   Announcement   **Configuration**   Components   User/Roles   Hello LTG-Veenhues-en

Signs   Layoutset selection   Image selection   **Layout parameter**

Filter


Standard parameters   Expert parameters

☒ All


▼ ☒ LTG Ulm


- ☐ BiStable Test gbr
- ☒ BiStable Entwicklung
- ☐ BiStable05, Eingang Gebäude
- ☐ BiStable06, Entwicklung
- ☐ E4, vor Gebäude
- ☐ BiStable01
- ☐ ePaper32" 2 Messe Portrait
- ☐ ePaper 32" 3 Inbetr. Landsc
- ☐ ePaper 32" 4 Florian CS 2.0
- ☐ ePaper 32" 5 Inbetr. Portrai
- ☐ ePaper 32" 6 Johannes Port

<   >

Cycle time      60

Audio profile

Audio timespan      Audio volume



# EDIT JOURNEY

PaCIM DPI.Commander

Monitor Messages Announcement Configuration **Components** User/Roles Hello LTG-Veenhues-en

**Edit journey** Image management

## Edit journey

Subscriptions

Show  entries Search:

AbolD	Description
105687	Schönweide / Sterndamm Linien 166, 265
107576	Schönweide / Sterndamm Linien 160, 163
3023139	Erbach, Gesundheitszentrum
5005268	Berglen, Oppelsbohm Ortsmitte
5005461	Kornwestheim, Johannesstraße
8509605	Surlej, Conradschbahn
151410904	Weinheim, ZOB - VGG 631, 682 Steig 4
151410906	Weinheim, ZOB - VGG 681, 682 Steig 6
151410907	Weinheim, ZOB - VGG 684, 688 Steig 7
170301551	Daun, ZOB, Solldaten - Steig 1

Showing 1 to 10 of 36 entries

Previous  2 3 4 Next

Journeys

Show  entries Search:

Line text	Departure/ETA	Destination
166	05.11. 20:08	U Boddinstraße
265	05.11. 20:12	U Märkisches Museum
166	05.11. 20:28	U Boddinstraße
265	05.11. 20:32	U Märkisches Museum
166	05.11. 20:48	U Boddinstraße
265	05.11. 20:52	U Märkisches Museum
166	05.11. 21:08	U Boddinstraße
265	05.11. 21:12	U Märkisches Museum
166	05.11. 21:28	U Boddinstraße
265	05.11. 21:32	U Märkisches Museum

Showing 1 to 10 of 10 entries

Previous  Next

Fields

Destination: U Boddinstraße

Fields

Destination: U Boddinstraße

New value:

☐ ☐ ☐

U Boddinstraße

U Boddinstraße

# IMAGE MANAGEMENT

PaCIM DPI.Commander


Monitor Messages Announcement Configuration **Components** User/Roles Hello LTG-Veenhues-en


Edit journey **Image management**


## Image upload

### Choose Image

Choose file Browse Upload

SampleImage\_1.png 


SampleImage\_2.png 

SampleImage\_3.png 

Sample Image 1  
Your text and information

Sample Image 2  
Your text and information

Sample Image 3  
Your text and information

 LUMINATOR  
TECHNOLOGY GROUP

# THANK YOU!

Amish Dalal

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