

# Mappview-根据客户端 IP 自动选择对应显示内容

## Edit Subject (File Menu, Properties)

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## I Versions

| Version | Date       | Comment       | Edited by |
|---------|------------|---------------|-----------|
| 1.0     | 0806, 2023 | First Edition | 王帅星       |
|         |            |               |           |
|         |            |               |           |
|         |            |               |           |

Table 1: Versions

## II Distribution

| Name | Company, Department | Amount | Remarks |
|------|---------------------|--------|---------|
|      |                     |        |         |
|      |                     |        |         |
|      |                     |        |         |
|      |                     |        |         |

Table 2: Distribution

## III Safety Notices

Safety notices in this document are organized as follows:

| Safety notice | Description   |
|---------------|---|
| Danger!       | Disregarding the safety regulations and guidelines can be life-threatening.                                 |
| Warning!      | Disregarding the safety regulations and guidelines can result in severe injury or heavy damage to material. |
| Caution!      | Disregarding the safety regulations and guidelines can result in injury or damage to material.              |
| Information:  | Important information used to prevent errors.   |

Table 3: Safety notices

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## 1 Introduction

印刷机有不同的色组，每个色组有独立的小屏操作，每个小屏的画面一样，但对应的变量不一样，使用 VC4 只能做多个画面，使用 mappview 可以一个只做一个画面，实现每个小屏独立操作，下面是两个屏的案例介绍。

### 1.1 bindlist

所有的控件的 opcua 变量全部使用 bindlist，使用 session “Var” 变量作为 index，选择控件所对应的 opcua 变量。

```
<Binding mode="twoWay">
  <Source xsi:type="listElement" >
    <Selector xsi:type="session" refId="Var" attribute="value" />
    <be>List xsi:type="be:opcUa" attribute="value" >
      <bt:Element index="0" refId="::MVTTask:Variable[0]" />
      <bt:Element index="1" refId="::MVTTask:Variable[1]" />
    </be>List>
  </Source>
  <Target xsi:type="brease" contentRefId="ContentMain" widgetRefId="NumericInput3" attribute="value" />
</Binding>
```

打开 mappview 画面后，在每个小屏上手动输入其对应的 Var 的值，即可实现功能，但是掉电之后 Var 的值就会丢失，每次都需要手动输入，使用不方便，也不方便区分每个屏。

### 1.2 客户端 IP 地址

寻找每个 mappview 客户端独特的属性，赋值 Var 变量，mappview 中客户端信息如下图：  
这里选用第二个变量 clientInfo.ipAddress。

| Variable name                  | Data type     | Default value        | Description   |
|--------------------------------|---------------|----------------------|---|
| clientInfo.userId              | ANY_STRING    | "Anonymous"          | ID of the currently logged-in user  |
| clientInfo.ipAddress           | ANY_STRING    | ""                   | IP address of the client  |
| clientInfo.activityCount       | ANY_INT       | 0                    | All touch screen, mouse and key events are detected and counted. This number is passed onto the mapp View server in 1 second intervals.<br>This feature must be enabled in the .vis file of the respective HMI application in element <a href="#">mapp View visualization object</a> .  |
| clientInfo.languageId          | ANY_STRING    | "de"                 | <a href="#">Language code</a> of the currently selected language  |
| clientInfo.languages           | ANY_STRING    | ""                   | List of languages configured on the client separated by commas. (e.g. "de,de-AT,de-DE,en-US,en")  |
| clientInfo.measurementSystemId | ANY_STRING    | From configuration   | Name of the currently selected system of measurement  |
| clientInfo.screenResolution    | ANY_STRING    | ""                   | Screen resolution of the client (e.g. "1080x880")   |
| clientInfo.operatingSystem     | ANY_STRING    | ""                   | Displays the name of the operating system.  |
| clientInfo.browser             | ANY_STRING    | ""                   | Indicates the browser currently in use.   |
| clientInfo.browserResolution   | ANY_STRING    | ""                   | Resolution of the browser window (e.g. "1080x880")<br><br>The returned value is also dependent on the scaling of texts on the operating system, which is taken into account by the browser during calculation.  |
| clientInfo.isValid             | BOOL          | false                | This value specifies whether a client is connected.   |
| clientInfo.connectionDateTime  | DATE_AND_TIME | 1970-01-01T00:00:00Z | This value specified when the client-server connection was established.   |
| clientInfo.slotId              | ANY_INT       | -1                   | Slot numbers are distributed based on when client connections are made (can be different each time).<br>The first connected client received slot number 0.<br>The maximum number of possible client slots is defined in the <a href="#">mapp View configuration</a> . If the configured number of slots has been reached, no additional clients will be accepted. |
| clientInfo.userAgent           | ANY_STRING    | ""                   | String for identifying the client (name and version of the browser software)  |
| clientInfo.cookieEnabled       | BOOL          | false                | This value specifies whether cookies are accepted on the client.  |
| clientInfo.currentPageId       | ANY_STRING    | ""                   | This value specifies which page was loaded on the client.<br>At runtime, the system variable is updated with the ID of the current page when navigating in the main HMI   |

clientInfo.ipAddress 是一个 IP 地址，接下来就是如何在 mappview 客户端上将 IP 地址转换成需要的 Var ( 1.1 中 Bindlist 使用 ) 值。

在 mappview 中使用表达式实现，由于表达式对 string 的处理只能以 BOOL 量输出，所以需要进一步处理。

#### Comparison operators

Input type: ANY

Output type: BOOL

| Name                     | Icon | Example |
|--------------------------|------|---------|
| Less than                | <    | A < B   |
| Less than or equal to    | <=   | A <= B  |
| Equal to                 | =    | A = B   |
| Greater than or equal to | >=   | A >= B  |
| Greater than             | >    | A > B   |
| Not equal to             | <>   | A <> B  |

### 1.3 建立 session 变量和表达式

新建 session 变量 Var1 和 Var2 ，

```
<Variable name="Var1" xsi:type="BOOL" value="false" />
<Variable name="Var2" xsi:type="BOOL" value="false" />
```

建立两个 ExpressionType

```
<ExpressionType name="MyExpressionType1" datatype="BOOL">
  <Operands>
    <Operand name="eingabel" datatype="ANY_STRING" />
  </Operands>
  <Operation>
    eingabel = "192.168.1.21"
  </Operation>
</ExpressionType>
```

```
</Operation>
</ExpressionType>

<ExpressionType name="MyExpressionType2" datatype="BOOL">
    <Operands>
        <Operand name="eingabel" datatype="ANY_STRING" />
    </Operands>
    <Operation>
        eingabel = "192.168.137.2"
    </Operation>
</ExpressionType>
```

建立两个对应的表达式，分别对应上面的两个 ExpressionType，由于 Expression 的类型只能是 content 类型，contentRefId 最好选择 mappview 启动后默认自动加载的 content。

```
<Expression id="myExpr1" xsi:type="content" contentRefId="ContentMain" type="MyExpressionType1" />
<Expression id="myExpr2" xsi:type="content" contentRefId="ContentMain" type="MyExpressionType2" />
```

## 1.4 表达式输入

myExpr1 的结果放在 Var1 中，如果 mappview 客户端的 IP 地址是 192.168.1.21 则 Var1 为 true，否则为 false。

```
<Binding mode="oneWay">
    <Source xsi:type="session" refId="::SYSTEM:clientInfo.ipAddress" attribute="value" />
        <Target xsi:type="expression" refId="myExpr1" attribute="eingabel" />
    </Binding>

    <Binding mode="oneWay">
        <Source xsi:type="expression" refId="myExpr1" attribute="result" />
            <Target xsi:type="session" refId="Var1" attribute="value" />
        </Binding>
```

myExpr2 处理的值放在 Var2 中

```
<Binding mode="oneWay">
    <Source xsi:type="session" refId="::SYSTEM:clientInfo.ipAddress" attribute="value" />
        <Target xsi:type="expression" refId="myExpr2" attribute="eingabel" />
    </Binding>

    <Binding mode="oneWay">
        <Source xsi:type="expression" refId="myExpr2" attribute="result" />
            <Target xsi:type="session" refId="Var2" attribute="value" />
        </Binding>
```

## 1.5 session 变量赋值

使用事件把变量赋值到 Var 中

```
<EventBinding id="EventBinding_4">
    <Source xsi:type="session.Event" refId="Var1" event="ValueChanged" />
```

```
<EventHandler condition="newValue = true">
    <Action>
        <Target xsi:type="session.VariableAction" refId="Var">
            <Method xsi:type="session.VariableAction.SetValueNumber" value="0" />
        </Target>
    </Action>
</EventHandler>
</EventBinding>

<EventBinding id="EventBinding_7">
    <Source xsi:type="session.Event" refId="Var2" event="ValueChanged" />
    <EventHandler condition="newValue = true">
        <Action>
            <Target xsi:type="session.VariableAction" refId="Var">
                <Method xsi:type="session.VariableAction.SetValueNumber" value="1" />
            </Target>
        </Action>
    </EventHandler>
</EventBinding>
```

将下面的初始化值改变动作打开

| Config.mappviewcfg [mapp View Configuration] X   eventbinding_Navigation.eventbinding [XML File]   MVTask::MVTask.pvm [Watch]   Online S |            |      |   |
|--|------------|------|---|
| Name   | Value      | Unit | Description   |
| MappViewConfiguration  |            |      |   |
| Server configuration   |            |      |   |
| Protocol   | HTTP       |      | Use secure communication protocol.  |
| Port Number  | 81         |      | Port number of mapp View webserver.   |
| Maximal client connections   | 5          |      | Number of maximum permitted client connections in value range 0-100   |
| Maximal B&R client connections (de...)   | 0          |      | Number of maximum permitted B&R client connections in value range 0-100   |
| Authentication mode  | RBAC       |      | Defines if the client authenticates via RBAC or MpUserX.  |
| Diagnostic Configuration   |            |      |   |
| Activate Diagnostic Page   | on         |      | Enable access to diagnostics page   |
| Role 1   | Everyone   |      | Role permitting User to access diagnostic page  |
| Role 2   |            |      | Role permitting User to access diagnostic page  |
| OPC UA system  |            |      |   |
| Server connection timeout  | 5000       | ms   | Timeout to connect to the OPC UA servers before the visualization is shown.   |
| Sampling rate groups   |            |      | Groups for different OPC UA binding variable sampling intervals   |
| default  | 200        | ms   |   |
| slow   | 1000       | ms   |   |
| fast   | 100        | ms   |   |
| Initial ValueChanged events  | TRUE       |      | ValueChanged events are also triggered for the initial value.<br>Timer objects for Events & Action System                     |
| Session Timer  |            |      |   |
| Timer 1  |            |      | Unique identification that can be referenced in event binding<br>Time in milliseconds in steps of 100 until the timer elapses |
| TimerId  | Timer1     |      |   |
| Interval   | 1000       |      |   |
| Timermode  | repetitive |      |   |
| Client configuration   |            |      |   |
| ID of default visualization  | vis        |      | ID of default visualization   |
| Widget configuration   |            |      |   |
| Rendering policy   | default    |      | Defines, how data is rendered in the browser for list widgets (Alarm, Audit...)   |
| Security policy  | on         |      | Defines, if data is sanitized to prevent Cross-Site-Scripting   |

## 1.6 测试

Ip 地址为 192.168.1.21 的客户端对应的 Var 值为 0 , 选择的变量为 variable[0]

Ip 地址为 192.168.137.2 的客户端对应的 Var 值为 1 , 选择的变量为 variable[1]

测试两个客户断电后 Var 变量会根据客户端变化 , 两个客户端变量读写正确。

192.168.1.21 客户端信息 :

|                       | Type                | RefId                                    | Attribute      | Value                        |
|-----------------------|---------------------|--|----------------|------------------------------|
| vis - ContentMain (6) |                     |  |                |                              |
| 1                     | expression variable | myExpr1<br>Var1                          | result value   | true true                    |
| 2                     | expression variable | myExpr2<br>Var2                          | result value   | false false                  |
| 3                     | listElement brease  | -<br>NumericInput3                       | - value        | 1<br>1                       |
| 4                     | variable brease     | Var<br>NumericInput2                     | value value    | 0<br>0                       |
| 5                     | variable expression | ::SYSTEM:clientInfo.ipAddress<br>myExpr1 | value eingabe1 | 192.168.1.21<br>192.168.1.21 |
| 6                     | variable expression | ::SYSTEM:clientInfo.ipAddress<br>myExpr2 | value eingabe1 | 192.168.1.21<br>192.168.1.21 |

192.168.137.2 客户端信息：

|                       | Type                | RefId                                    | Attribute      | Value                          |
|-----------------------|---------------------|--|----------------|--------------------------------|
| vis - ContentMain (6) |                     |  |                |                                |
| 1                     | expression variable | myExpr1<br>Var1                          | result value   | false false                    |
| 2                     | expression variable | myExpr2<br>Var2                          | result value   | true true                      |
| 3                     | listElement brease  | -<br>NumericInput3                       | - value        | 2<br>2                         |
| 4                     | variable brease     | Var<br>NumericInput2                     | value value    | 1<br>1                         |
| 5                     | variable expression | ::SYSTEM:clientInfo.ipAddress<br>myExpr1 | value eingabe1 | 192.168.137.2<br>192.168.137.2 |
| 6                     | variable expression | ::SYSTEM:clientInfo.ipAddress<br>myExpr2 | value eingabe1 | 192.168.137.2<br>192.168.137.2 |

## 2 Figure Index

**Es konnten keine Einträge für ein Abbildungsverzeichnis gefunden werden.**

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