

HTMLView控件测试 基于C80测试

1 介绍

目的：确保HTMLView功能 能在AR Runtime模式和Windows terminal模式下使用

结论：目前通过不同的路径测试，验证了在AR Runtime模式下能正常显示HTMLView控件下网页的显示。基于同样的原理，Windows terminal模式下也能正常显示。

其中，需要注意的是，AR模式下HTMLView控件中ChangeURLDatapoint file路径为基于PLC Configuration中File devices盘符的相对路径，而Windows模式下路径为绝对路径。

HTMLView在AR和Windows Runtime模式下区别

HTMLView - Differences between AR / Windows Runtime			
The following table shows the range of functions for Embedded (Automation Runtime or Windows) and the HTMLView control based on Internet Explorer (Windows):			
Function	Embedded Automation Runtime	Embedded Windows Terminal	Internet Explorer Windows Terminal
Simple HTML pages (Tags)	✓	✓	✓
Java scripts	✗	✗	✓
ActiveX (SVG, VNC, PDF,...)	✗	✗	✓
Graphics	✓	✓	✓
File device	✓	✓ (Windows file system)	✓ (Windows file system)
URL (HTTP, RTSP, FTP)	✓ (HTTP only)	✓ (HTTP only)	✓
SDM	✓	✓	✓

ChangeURLDatapoint路径设置

ChangeURLDatapoint	Automation Runtime	Windows Terminal - RenderingEngine "Automatic"	Windows Terminal - RenderingEngine "Embedded"
file://	Reference to the file device defined in the text group connected to the DefaultURLs property. Example: file://HTML_WEB_EN:/index.htm	The URL with an absolute path to the local drive or network drive. Example: file:///c:/documents/index.htm	The URL relative to the path defined in DefaultURLs - index 0. Example: index.htm
http://	Browser address. Example: http://IP-address/sdm-vga	Browser address. Example: http://IP-address/sdm	Browser address. Example: http://IP-address/sdm-vga
ftp:// rtsp://	Not possible.	Windows browser address.	Not possible.
datapoint://	HTML Control displays the content of the HTMLStream data point.	HTML Control displays the content of the HTMLStream data point.	HTML Control displays the content of the HTMLStream data point.

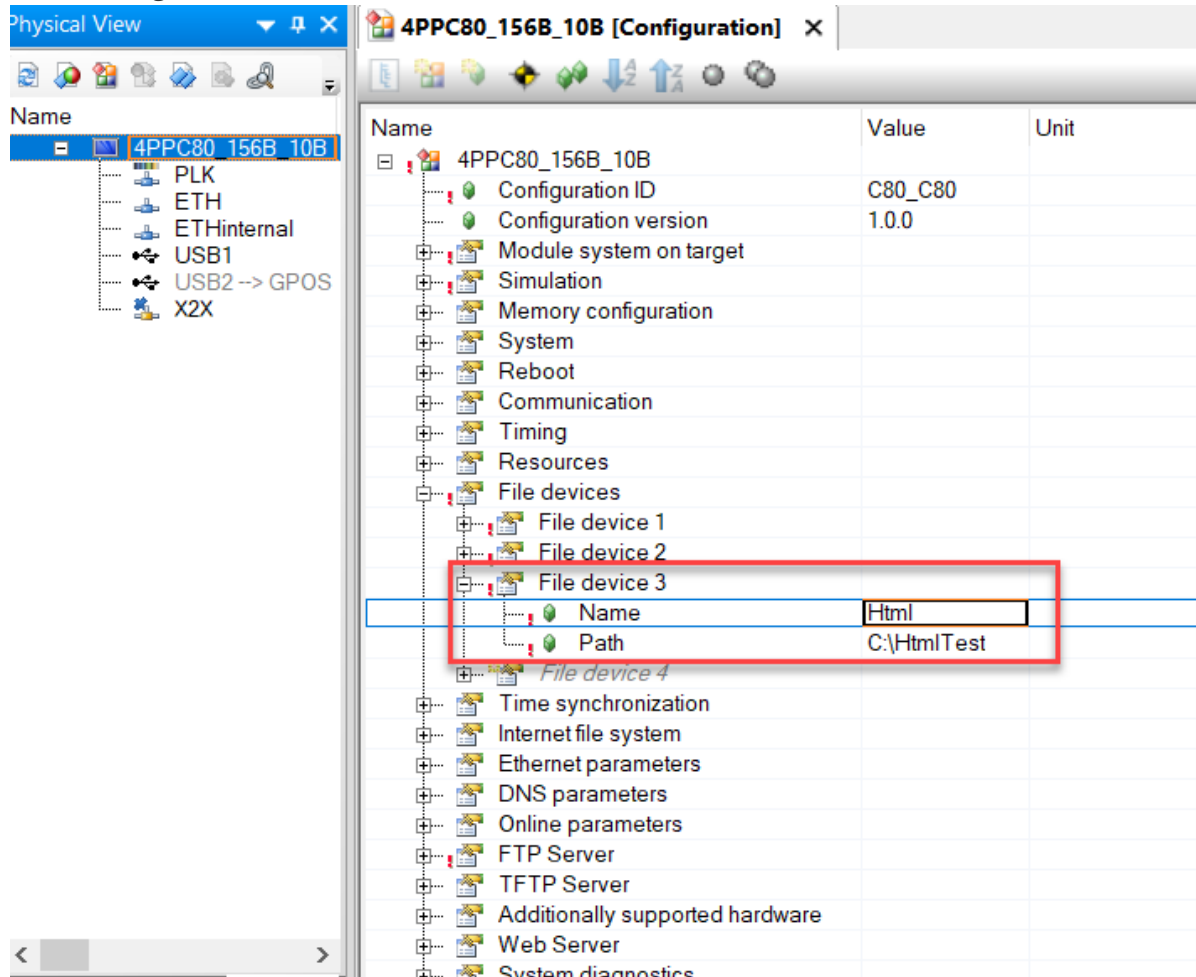
AR模式路径：file://Config中盘符://html文件名.html

Windows Terminal Automatic模式：file:///绝对路径

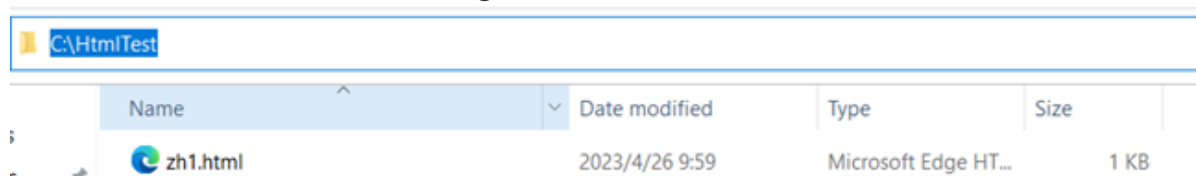
2 测试步骤

2.1 仿真模式测试

在PLC Configuration下的File devices中建立盘符和路径如下图

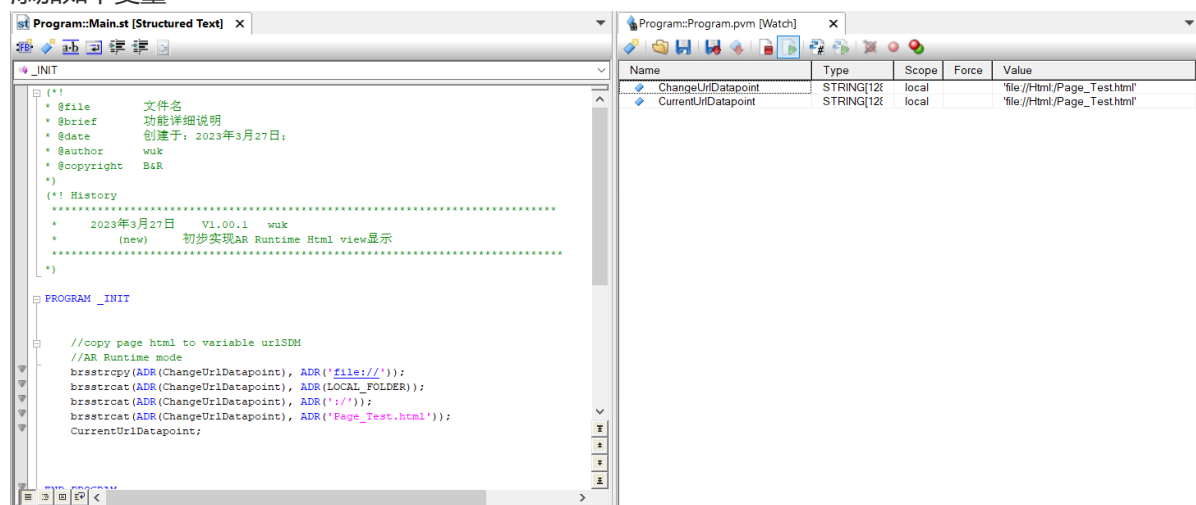


在电脑C盘下新建文件夹HtmlTest，将Logical View中的HtmlView文件zh1.html拷贝至C:\HtmlTest下



编译程序，打开程序的watch窗口

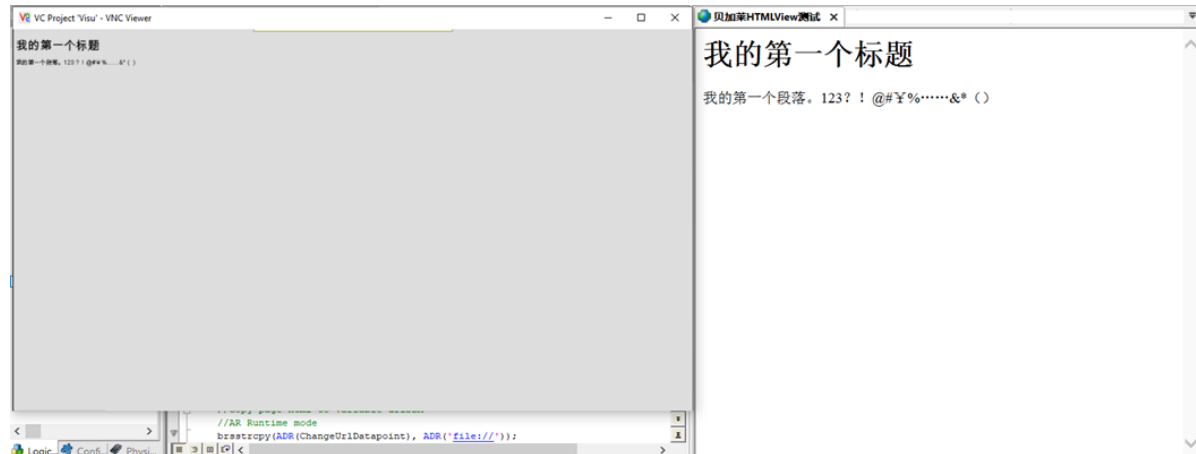
添加如下变量



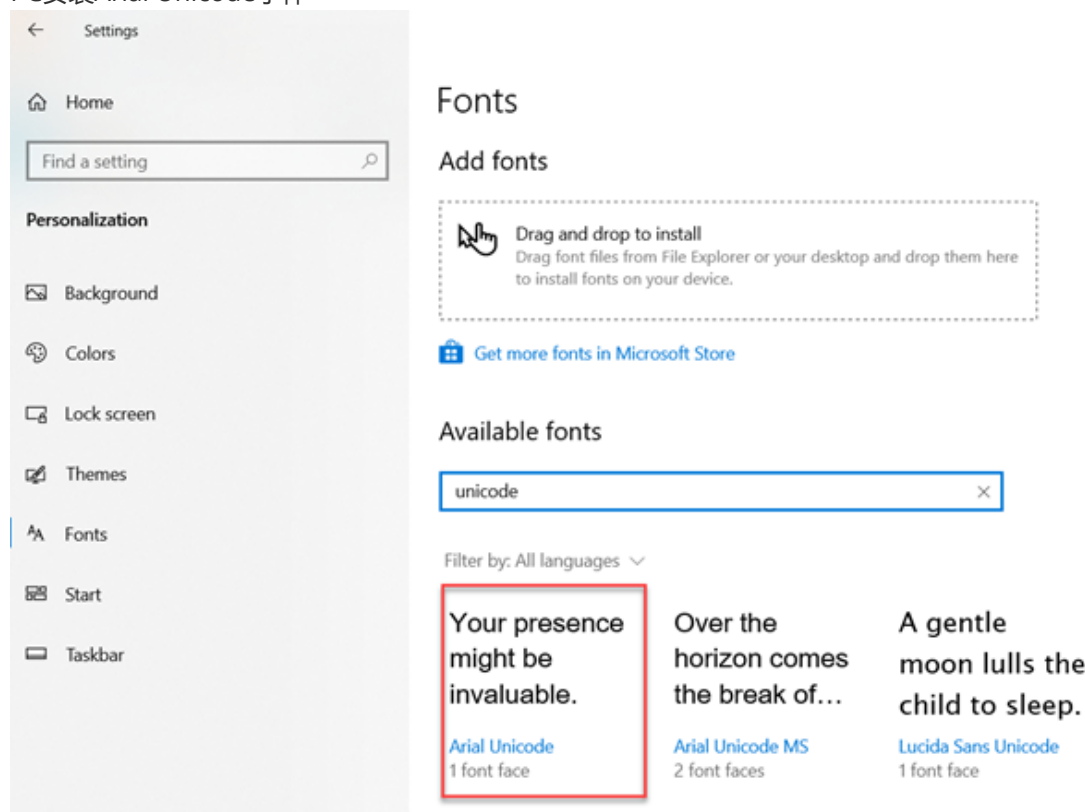
将ChangeUrlDatapoint变量值改为'file://Html:/zh1.html'

打开VNC，观察窗口变化

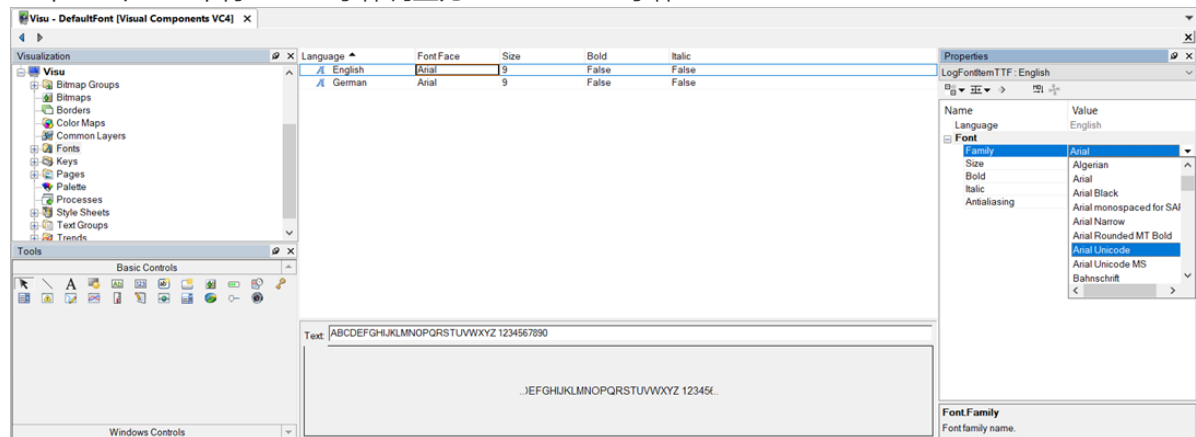
当看到如下页面，证明HTMLView控件正常工作（左VNC窗口，右在AS中打开html文件预览）



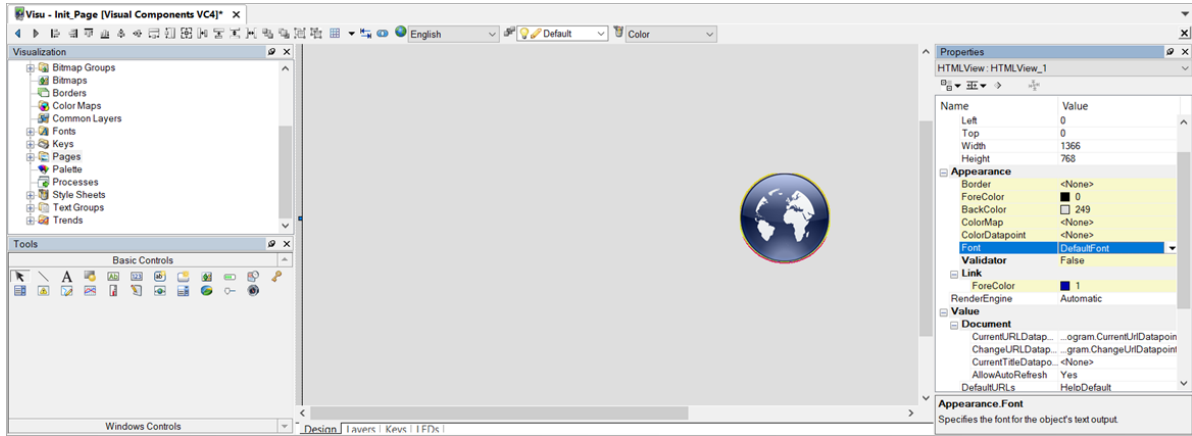
补充：中文html正确显示的配置
PC安装Arial Unicode字体



AS中VC4下Font中将Default字体调整为Arial Unicode字体



VC4下HtmlView控件字体设置为Default Font(Arial Unicode)字体

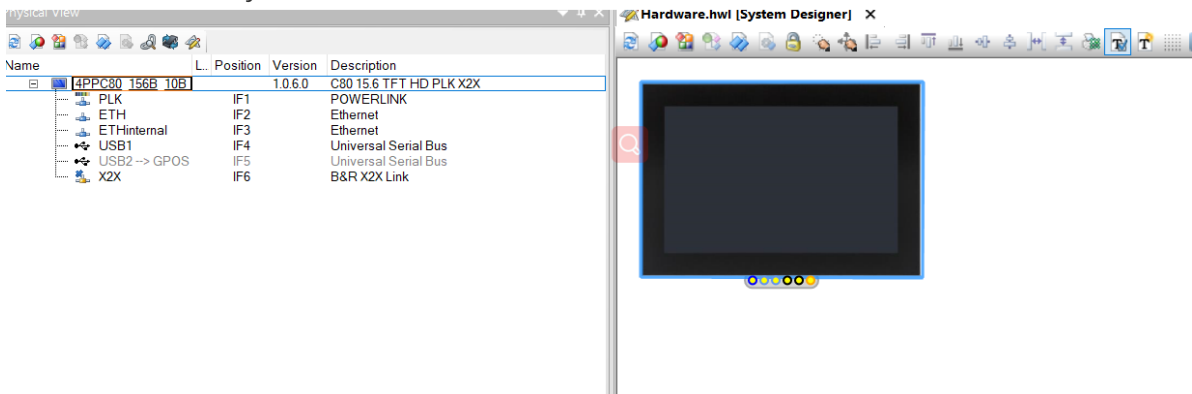


2.2 硬件连接测试

将C80 (4PPC80_156B_10B) 电源连接, Eth口 IF2与PC Ethernet口连接



空项目建立后, 在Physical view中添加硬件



AS固件及相应version版本升级

I/O

General

Runtime Versions

OPC

Build

Transfer

Comparison

VC Terminals

CiR

Build Events


4PPC80_156B_10B

Component	Preferred	In use	Scope
 Automation Runtime	D4.93 ▾	D4.93	
 Visual Components	V4.72.9 ▾	V4.72.9	
 mapp View	not defined ▾	not defined	
 mapp Vision	not defined ▾	not defined	
 mapp Motion	not defined ▾	not defined	
 ACP10 ARNC0 (Motion)	not defined ▾	not defined	
 mapp Services	not defined ▾	not defined	
 mapp Safety	not defined ▾	not defined	
 mapp Control	not defined ▾	not defined	
 mapp Cockpit	not defined ▾	not defined	
 Safety Release	not defined ▾	not defined	

☐ Advanced

扫描网口

由于程序中界面有对应的sdm界面 获取相应ip地址10.86.20.200后建立连接

Ethernet	Serial	Modem	Remote						
Connection name	Use in active co...	Source INA node number	Destination IP address	Destination host name	Destination IN... node number	Target type	description		
TCPIP	☐	1			2				
4PPC50.156B-10B	☐	1	10.49.140.161						
ARsim_TCPIP	☐	1	127.0.0.1						
ARwin	☐	1	192.168.0.2						
NewTCPIPConnection	☐	1	192.168.1.253						
NewTCPIPConnectio...	☐	1	10.86.20.200						

ping通测试

```
C:\Users\wuk>ping 10.86.20.200

Pinging 10.86.20.200 with 32 bytes of data:
Reply from 10.86.20.200: bytes=32 time=179ms TTL=64
Reply from 10.86.20.200: bytes=32 time<1ms TTL=64
Reply from 10.86.20.200: bytes=32 time<1ms TTL=64
Reply from 10.86.20.200: bytes=32 time<1ms TTL=64

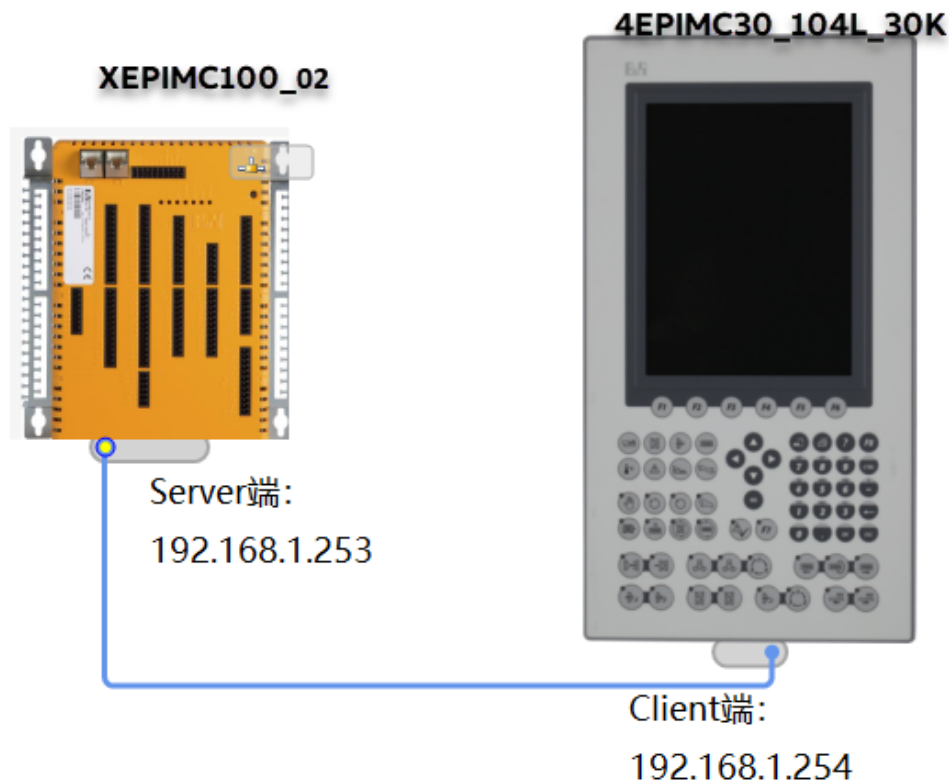
Ping statistics for 10.86.20.200:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 179ms, Average = 44ms
```

VC4界面配置

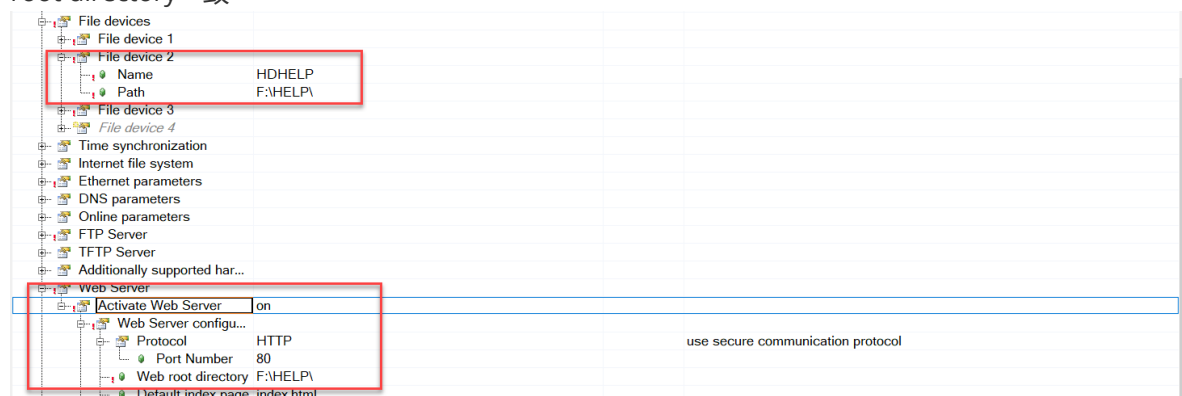
The screenshot shows the Visual Components (VC4) software interface. The main design area contains a globe icon. On the right, the Properties panel is open for the 'HTMLView: HTMLView_1' component. The 'Value' property is configured to 'DataSource.Program.uriSDM', and the 'AllowAutoRefresh' property is set to 'Yes'.

AR PLC as server, AR Panel as client

如果使用PLC作为服务端，而屏作为客户端来显示HTML格式网页内容，则需要通过http服务来加载内容
例如图例中的拓扑配置



需要在PLC的cofiguration中将File devices和Web Server中进行如下配置，保证File device和Web root directory一致



AS中关于Web root directory说明，AR 4.25版本后，支持相对USER partition路径名称
可以根据File device 中的Name填写至Web root directory。

Web root directory (with AR 3.08 or later in AS)

F:\Web\ [default from AR 3.08 to AR 4.24]
Web\ [default for AR 4.25 and later]

This parameter defines the default root directory for websites.
Starting with AR 4.25, entries can be made relative to a USER partition. This is the preferred method for as opposed to absolute entries.

PLC Eth2口配置

Name	Value	Unit	Description
IF2			
Activate interface	on		
Device parameters			For global Ethernet and DNS settings (e.g. Host name, DNS server address) see CP
Baud rate	auto		
Mode	enter IP address manually		
IP address	192.168.1.253		
Subnet Mask	255.255.255.0		
INA parameters			
Activate online c...	on		
Port number	11159		
Redundant INA c...	Single CPU		
INA node nu...	2		
ANSL parameters			
Activate online c...	on		

AR Panel配置

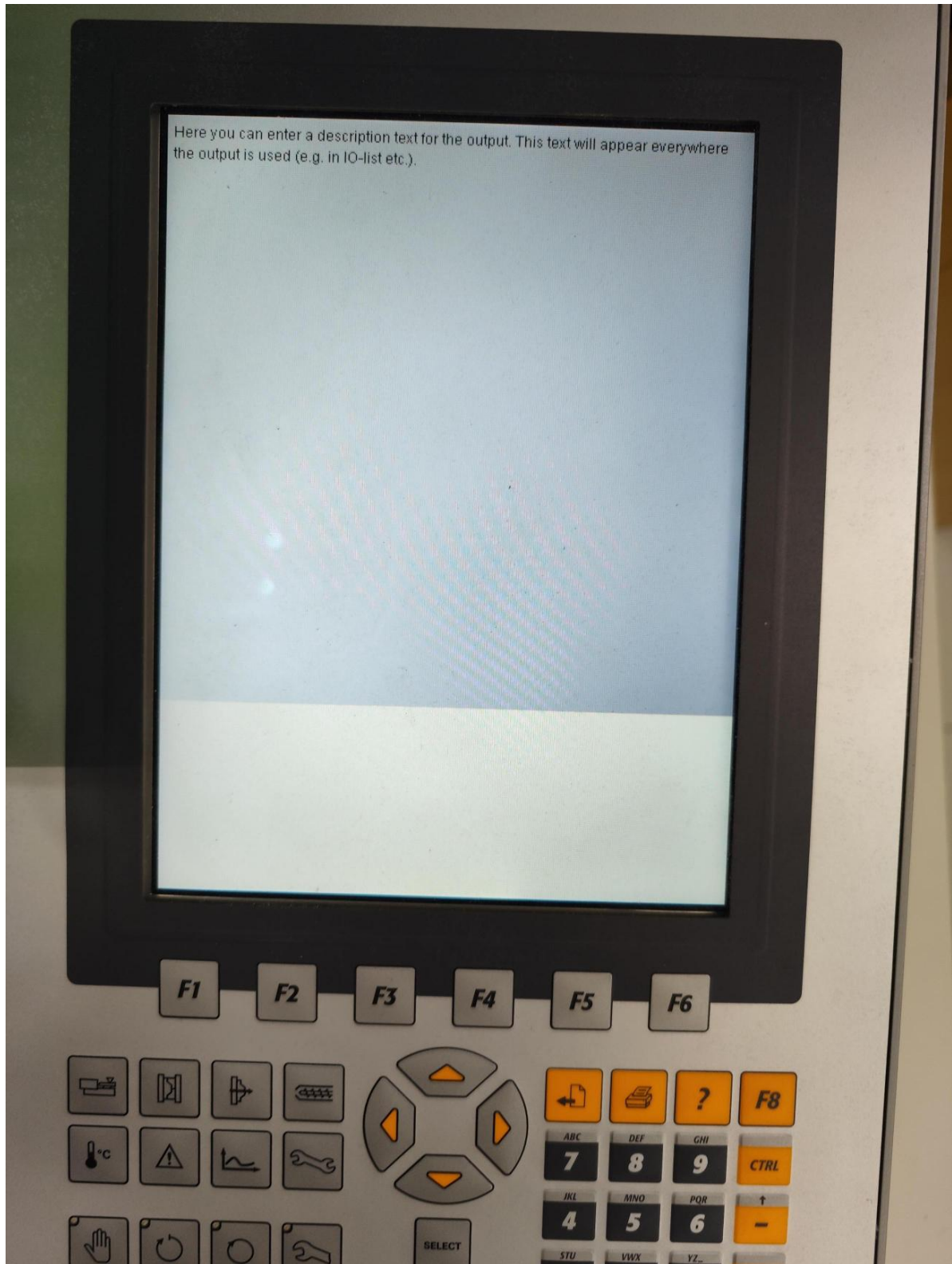
Name	Value	Unit	Description
4EPIMC30_104L_30K			
Operating system	AR Embedded		
INA node number	1		
Ethernet param...			
Mode	enter IP address manually		
Internet ad...	192.168.1.254		
Default ga...	192.168.1.254		
Subnet ma...	255.255.255.0		
Data object n...			Name of the br module containing terminal configuration
Connection ti...	6	s	Time until client signals connection error
Web Server			
System diagnosti...			
VC Mapping			
VNC Server			
ANSL Authentica...			

程序中htmlview控件变量赋值

```
ChangeUrlDatapoint:='http://192.168.1.253/PageTest.html';|
```

路径为 <http://+PLC Address+基于Web root directory子目录+name.html>

成功配置后网页显示画面如下



3 测试过程

测试1

将Html文件放置在CF卡路径下，通过访问文件路径的形式来显示html文件。

Config-File device设置

Name	Value	Unit	Description
4PPC80_156B_10B			
Configuration ID	C80_C80		Unique configuration ID. Required
Configuration version	1.0.0		Configuration version for condition
Module system on target			
Simulation			
Memory configuration			
System			
Reboot			
Communication			
Timing			
Resources			
File devices			
File device 1			
Name	UserPartition		
Path	F:\		
File device 2			
Name	HelpInfo		
Path	F:\HELP		
File device 3			
Name	Html		
Path	C:\HtmlTest		
File device 4			
Name	USER		
Path	USER_PATH		
Time synchronization			
Internet file system			
Ethernet parameters			
DNS parameters			

VNC配置，将Max connection设为2，便于硬件显示内容和VNC软件显示一致。

VNC Server Configuration for PLC		Configuration for VNC server which is running on the PLC (not on PPT or Mobile panel)	
VC Mapping			
VC object name	Visu		
Key mapping file			
Passwords			
Port number	5900		Port number must be unique
Max connections	2		Maximum allowed number of concurrent connections to this VNC server
Refresh rate	100	ms	Time between refreshes of the remote display
Connection timeout	4	s	Time until server is closed if client doesn't respond
Title			Title of VNC client Window

Config->FTP设置

FTP Server			
Activate FTP Server	on		
Protocol	FTP		use secure communication protocol
Users			
User 1			
Username	U1		
Password	6i5kGlpoj17c...	123	
Access rights	read/write		user access-rights
Shared Device	All Devices		select device

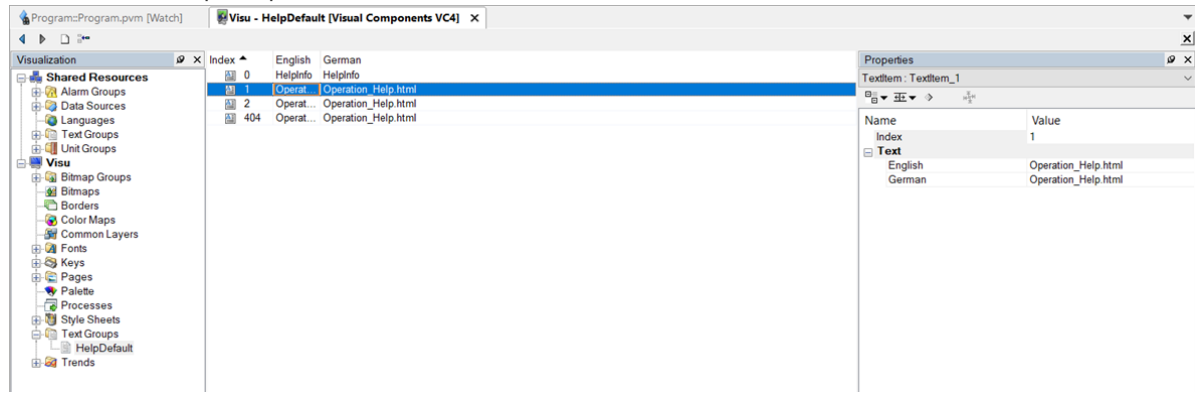
通过Filezilla FTP软件进入PLC F盘文件路径，复制2测试网页Operation.html和Page_Test.html在规定的路径下。

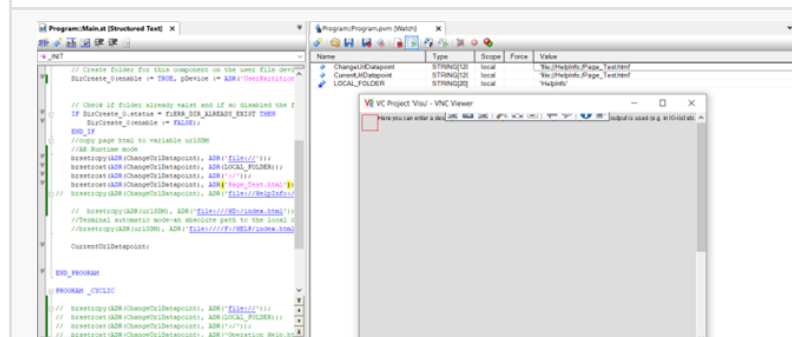
Remote site: F:\HELP						
C:\						
ADDONS						
Brm						
SYSTEM						
F:\						
HELP						
Filename	Filesize	Filetype	Last modified	Permissions	Owner/Gr...	
Operation_Help.html	1,664	Microsoft Edge HTML Docum...	2023/3/27 17:34:00	-rwxrwxrwx	0 0	
Page_Test.html	363	Microsoft Edge HTML Docum...	2023/3/27 17:34:00	-rwxrwxrwx	0 0	

ST程序

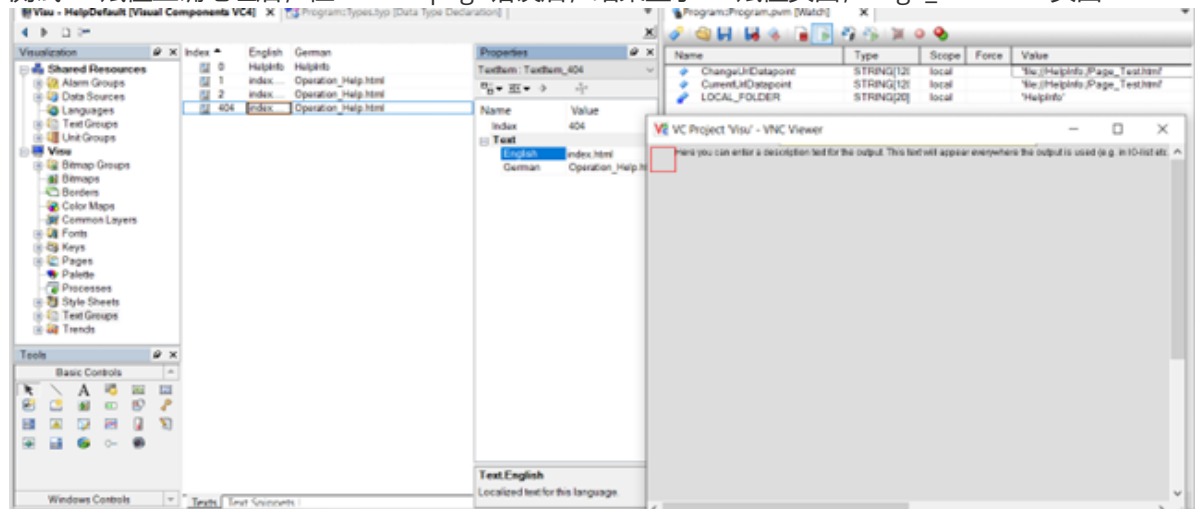
修改LOCAL_FOLDER变量为F盘符下指定路径，例如HelpInfo

在VC4-TextGroup-HelpDefault添加Default文件



测试方法	说明	页面是否正常显示
Init赋值地址正确+Default地址正确	显示Init赋值地址页面	是
Init赋值地址错误+Default地址正确	显示Default赋值地址页面	是
Init赋值地址正确+Default地址错误	显示Init赋值地址页面	是
Init赋值地址错误+Default地址错误	显示404页面	否
测试Init输入错误地址后效果，结果显示HelpDefault (Page_Test.html) 页面		
		
测试Init赋值正确地址后，结果同样显示Page_Test.html页面		

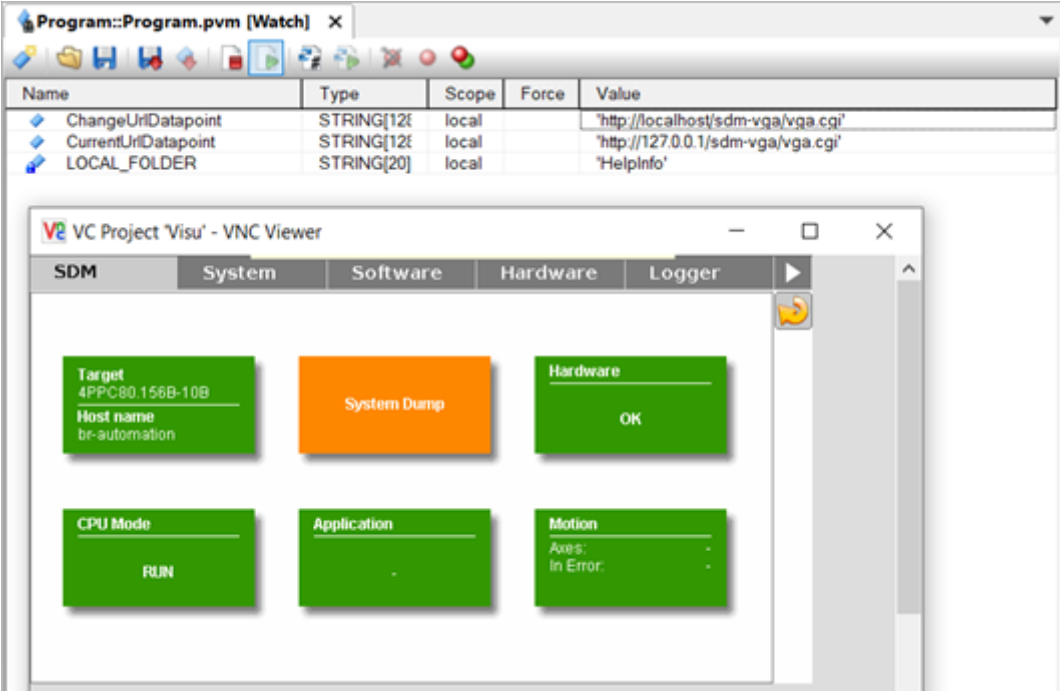
测试Init赋值正确地址后，但Default page错误后，结果显示Init赋值页面，Page_Test.html页面



测试2 SDM诊断页面

测试页面	说明	是否正常显示
http://localhost/sdm-vga/vga.cgi	620 x 339	是
http://localhost/sdm-xga/xga.cgi	1004 x 567	是
http://localhost/xga.cgi?menu=system_memory	System - Memory page	是
http://localhost/sdm-xga/system_general.html	Starting page System - General	否

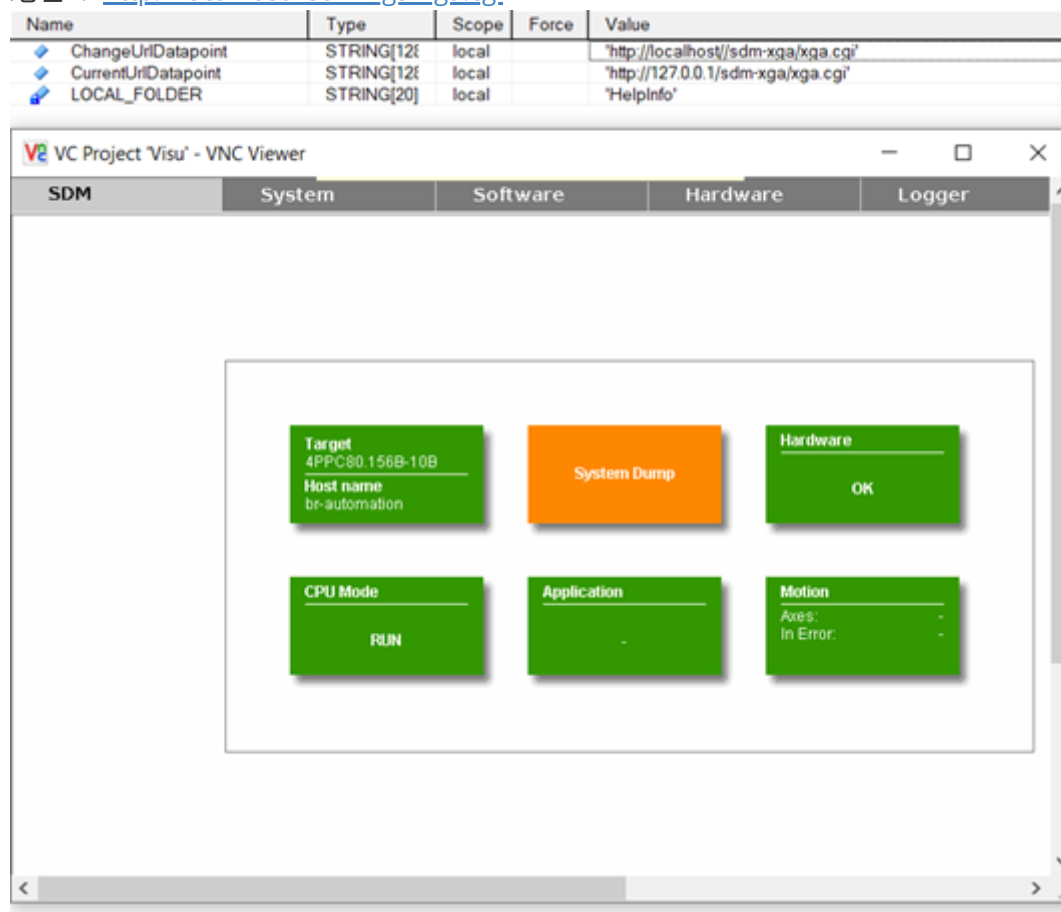
地址1: <http://localhost/sdm-vga/vga.cgi>



调整分辨率

地址2: <http://localhost//sdm-xga/xga.cgi>

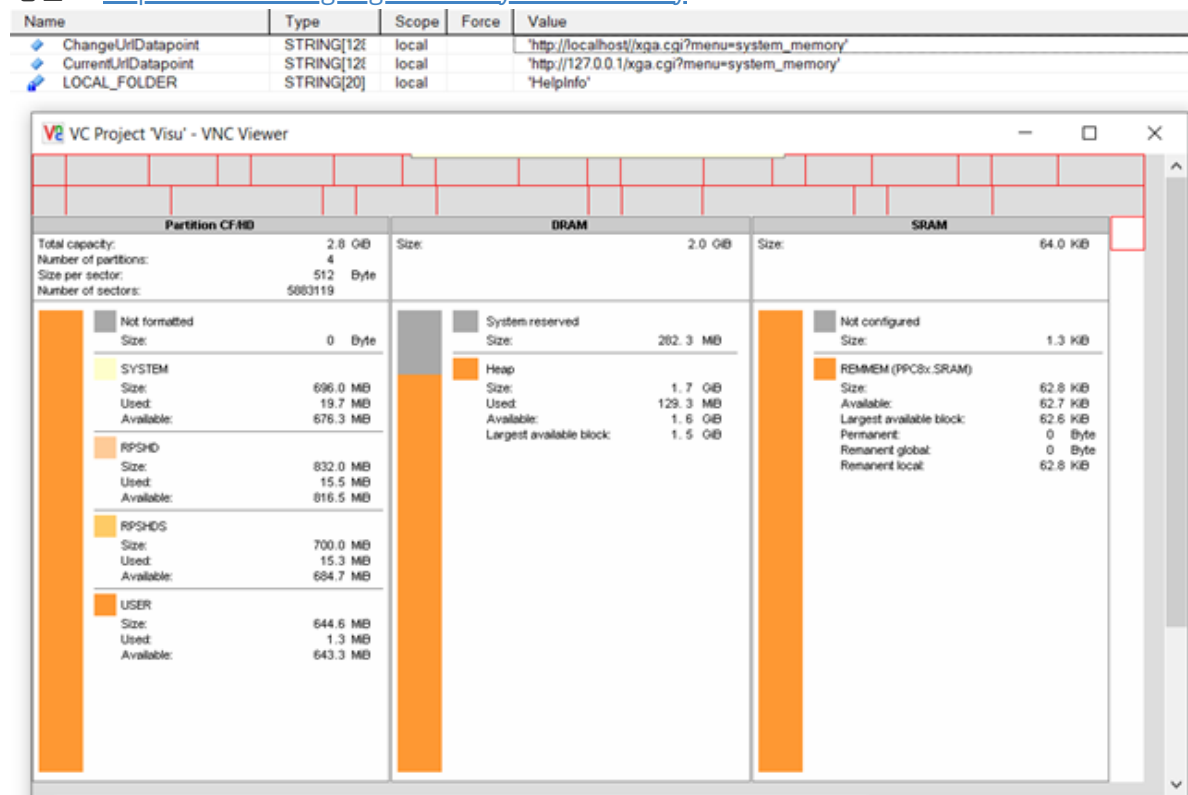
Name	Type	Scope	Force	Value
ChangeUriDatapoint	STRING[128]	local		'http://localhost//sdm-xga/xga.cgi'
CurrentUriDatapoint	STRING[128]	local		'http://127.0.0.1/sdm-xga/xga.cgi'
LOCAL_FOLDER	STRING[20]	local		'HelpInfo'



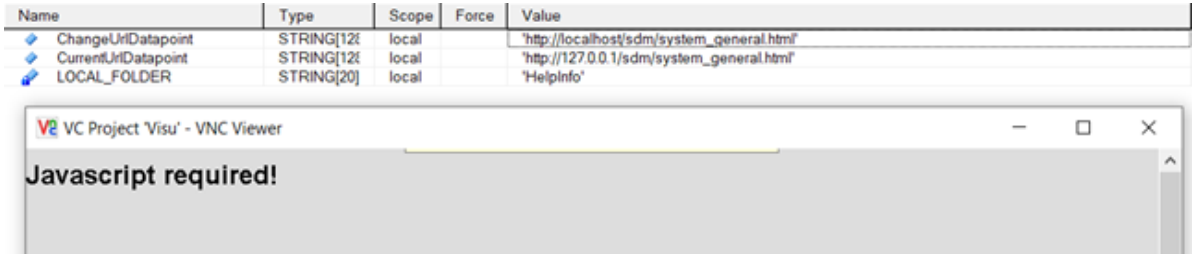
调整分辨率并进入子页面

地址3: http://localhost//xga.cgi?menu=system_memory

Name	Type	Scope	Force	Value
ChangeUriDatapoint	STRING[128]	local		'http://localhost//xga.cgi?menu=system_memory'
CurrentUriDatapoint	STRING[128]	local		'http://127.0.0.1/xga.cgi?menu=system_memory'
LOCAL_FOLDER	STRING[20]	local		'HelpInfo'



需要注意 VC4下不支持Javascript属性
地址4: http://localhost/sdm/system_general.html



4 结论

结论：目前通过不同的路径测试，验证了在AR Runtime模式下能正常显示HTMLView控件下网页的显示。基于同样的原理， Windows terminal模式下也能正常显示。