

# Ethernet Control of W-IE-NE-R Power Supplies

# TCP/IP over Ethernet

- Integration into existing 10M/100M LAN
- Standard Network Cables, RJ45-Connector
- Simple control with integrated WWW-server using any WEB-browser (MS Internet Explorer, Mozilla Firefox and Linux Konqueror are tested)
- Complete control with SNMP (Simple Network Management Protocol)
- Additional connection to the RS232-port of a VME CPU with TELNET protocol (used to monitor boot messages/BIOS access)

# TCP/IP over Ethernet

## WEB-Browser

UEP6000/PL500 - Microsoft Internet Explorer

Datei Bearbeiten Ansicht Favoriten Extras ?

UEP6000/PL500 [W-IE-NE-R](#)

MAIN POWER VME SYSRESET FAN SLOWER FAN FASTER

**Global Status**

Power Supply Status	OFF
Fan Tray Status	OK
Fan Speed	0 RPM
Fan Temperature	25°C

**Output Voltages**

Channel	Name	Voltage	Current	Status
U0	+5V0	5.80V	0A	FAILURE
U1	+12V	12.0V	0.0A	OK
U4	-5V2	5.19V	0A	OK
U5	-12V	12.0V	0.0A	OK
U7	-2V0	2.00V	0A	OK

**External Temperature Sensors**

1	2	3	4	5	6	7	8
-29°C	-20°C	-8°C	2°C	11°C	20°C	32°C	37°C

Fertig Internet

Verbindung zu 192.168.91.81 herstellen

WIENER Crate

Benutzername: private

Kennwort: .....

Kennwort speichern

OK Abbrechen

# TCP/IP over Ethernet

## SNMP

- SNMP is a well defined protocol, we use protocol version 2c (Access control with community names)
- Different access rights (read only, simple control, ...)
- Many utilities available (Windows/Unix),
  - Command Line (Batch files)
  - PERL
  - PHP (stand alone or in the APACHE WEB-server)

# TCP/IP over Ethernet

## *SNMP Command Line Tools ([www.net-snmp.org](http://www.net-snmp.org))*

```
C:\>snmpget -v 2c -m +WIENER-CRATE-MIB -c public 192.168.91.80  
outputMeasurementSenseVoltage.U1
```

```
WIENER-CRATE-MIB::outputMeasurementSenseVoltage.U1 = Opaque:  
Float: 12.020000 V
```

```
C:\>snmpset -v 2c -m +WIENER-CRATE-MIB -c guru 192.168.91.80  
outputVoltage.U0 F 4.0
```

```
WIENER-CRATE-MIB::outputVoltage.U0 = Opaque: Float: 4.000000 V
```

**Command & basic parameters**

**Crate IP address or DNS name**

**Date Type & Value**

**Community name**

**Item to get/set**

**Response (Answer of the crate)**

# TCP/IP over Ethernet

## SNMP Access Control: Display of the Community Strings

```
C:\>snmptable -v 2c -m +WIENER-CRATE-MIB -Ci -c guru 192.168.91.80  
communityTable
```

```
SNMP table: WIENER-CRATE-MIB::snmp
```

```
index snmpCommunityEntry  
public      "public"  
private     "private"  
admin       "admin"  
guru        "guru"
```

**Command & basic parameters**

**Crate IP address or DNS name**

**Date Type & Value**

**Community name**

**Item to get/set**

**Response (Answer of the crate)**

# TCP/IP over Ethernet

## Change „private“ Password (WEB/SNMP)

```
C:\>snmpset -v 2c -m +WIENER-CRATE-MIB -c guru 192.168.91.80  
snmpCommunityName.private s seCrET
```

```
WIENER-CRATE-MIB::snmpCommunityName.private = STRING: "seCrET"
```

- Lost passwords: Restore of the default values with the (hardware) switches at the front pannel.

**Command & basic parameters**

**Crate IP address or DNS name**

**Date Type & Value**

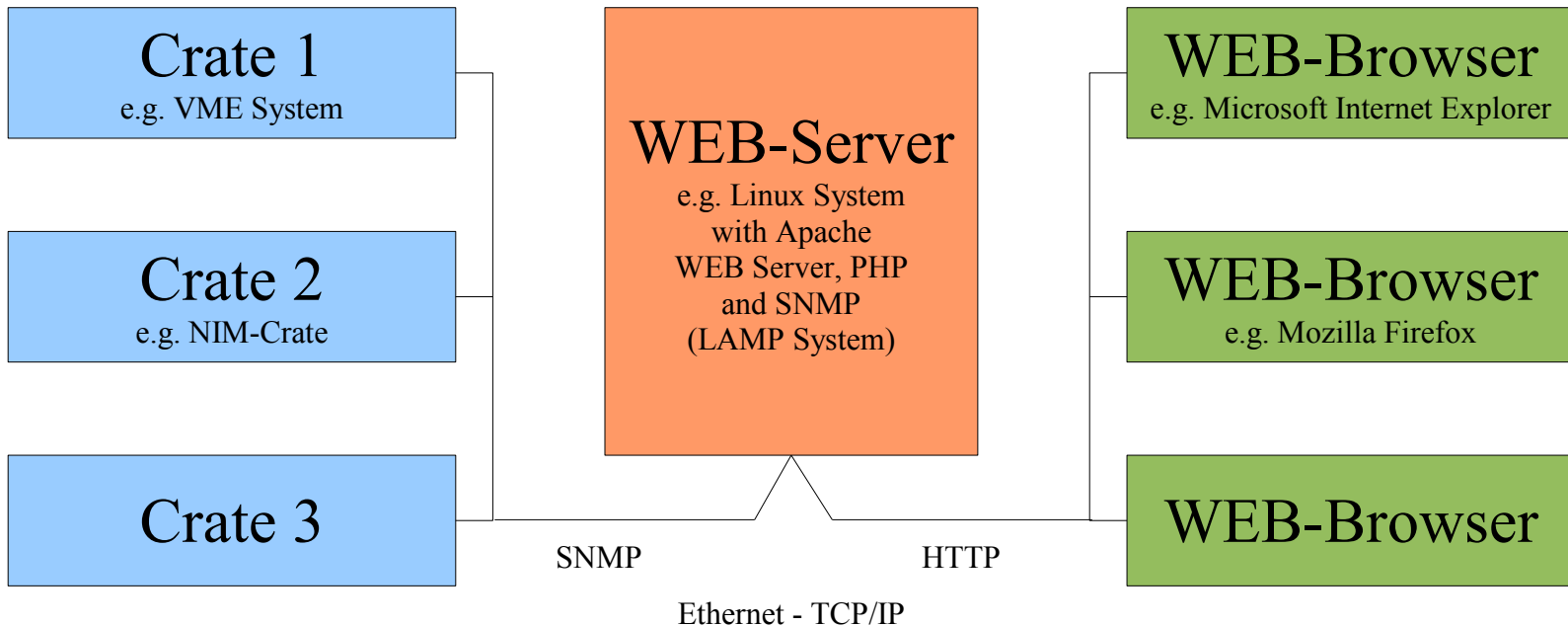
**Community name**

**Item to get/set**

**Response (Answer of the crate)**

# TCP/IP over Ethernet

## Custom-Specific WEB-Site



W-IE-NE-R Power Supply - Mozilla Firefox

http://internal.wiener-d.com/PControlCrateTest/crate.php

Item	Value
Crate up for	0:1:08:00.13
Measured Sense Voltage U0	5.010000 V
Measured Current U0	0.120000 A
Nominal Voltage U0	5.000000 V
Current Limit U0	115.000000 A
Measured Sense Voltage U1	12.009999 V
Measured Current U1	0.000000 A
Nominal Voltage U1	12.000000 V
Current Limit U1	11.500000 A
Measured Sense Voltage U2	48.419998 V
Measured Current U2	0.000000 A
Nominal Voltage U2	48.000000 V
Current Limit U2	13.500000 A
Measured Sense Voltage U5	11.969999 V
Measured Current U5	0.240000 A
Nominal Voltage U5	12.000000 V
Current Limit U5	11.500000 A

Fertig

# TCP/IP over Ethernet

*Example:  
Custom-  
Specific  
WEB-Site*

# TCP/IP over Ethernet

## Custom WEB-Site PHP Source Code

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset//EN" "http://www.w3.org/TR/html4/frameset.dtd">
<html>
<head>
<meta http-equiv="refresh" content="1;">
<title>W-IE-NE-R Power Supply</title>
</head>

<body>
<?php
$requestData = array(
    array('name'=>'Crate up for'           , 'oid' => 'sysUpTime.0'),
    array('name'=>'Measured Sense Voltage U0', 'oid' => 'outputMeasurementSenseVoltage.1'),
    array('name'=>'Measured Current        U0', 'oid' => 'outputMeasurementCurrent.1'),
    array('name'=>'Nominal Voltage          U0', 'oid' => 'outputVoltage.1'),
    array('name'=>'Current Limit            U0', 'oid' => 'outputCurrent.1'),

    array('name'=>'Measured Sense Voltage U1', 'oid' => 'outputMeasurementSenseVoltage.2'),
    array('name'=>'Measured Current        U1', 'oid' => 'outputMeasurementCurrent.2'),
    array('name'=>'Nominal Voltage          U1', 'oid' => 'outputVoltage.2'),
    array('name'=>'Current Limit            U1', 'oid' => 'outputCurrent.2'),

    array('name'=>'Measured Sense Voltage U3', 'oid' => 'outputMeasurementSenseVoltage.4'),
    array('name'=>'Measured Current        U3', 'oid' => 'outputMeasurementCurrent.4'),
    array('name'=>'Nominal Voltage          U3', 'oid' => 'outputVoltage.4'),
    array('name'=>'Current Limit            U3', 'oid' => 'outputCurrent.4'),

    array('name'=>'Measured Sense Voltage U5', 'oid' => 'outputMeasurementSenseVoltage.6'),
    array('name'=>'Measured Current        U5', 'oid' => 'outputMeasurementCurrent.6'),
    array('name'=>'Nominal Voltage          U5', 'oid' => 'outputVoltage.6'),
    array('name'=>'Current Limit            U5', 'oid' => 'outputCurrent.6'),
);
```

# TCP/IP over Ethernet

## *Custom WEB-Site PHP Source Code (continued)*

```
$ip = '192.168.91.80';           // IP address of the crate
$timeout = 10000;              // SNMP timeout (us)
$retries = 10;                 // number of retries
$community = 'guru';          // snmp community name

snmp_set_quick_print(1);
snmp_read_mib('WIENER-CRATE-MIB.txt');

// generate HTML table
echo '<table border="1" cellspacing="0">';
echo '<tr><th>Item</th><th>Value</th></tr>';
foreach ($requestData as $item) {
    // get data from crate
    $value = @snmpget($ip, $community, $item['oid'], $timeout, $retries);

    // display
    echo "<tr>";
    print "<td>".$item['name']."</td>";
    print "<td>";
    if($value === false) printf("?");
    else print($value);
    echo "</td>";
    echo "</tr>";
}
echo '</table>';
?>
</body>
</html>
```