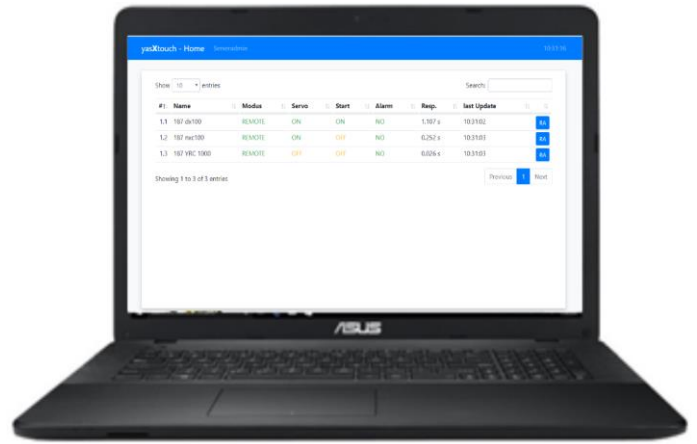
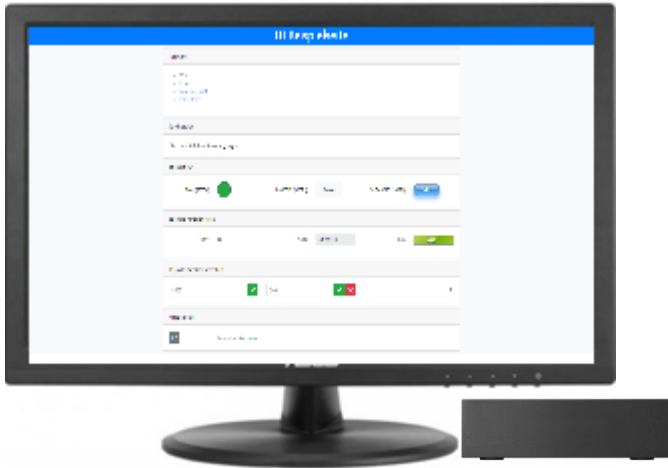


YasXTouch

YasXfer Remote Maintenance
Scan Tool JSON

Übersicht lokal / local Overview



An der Roboterzelle HTML Benutzer Bildschirm
In Front of the System HTML User Screen

Extern / Intern Remote Service



Yaskawa Controller



sichere Verbindung
safety connection

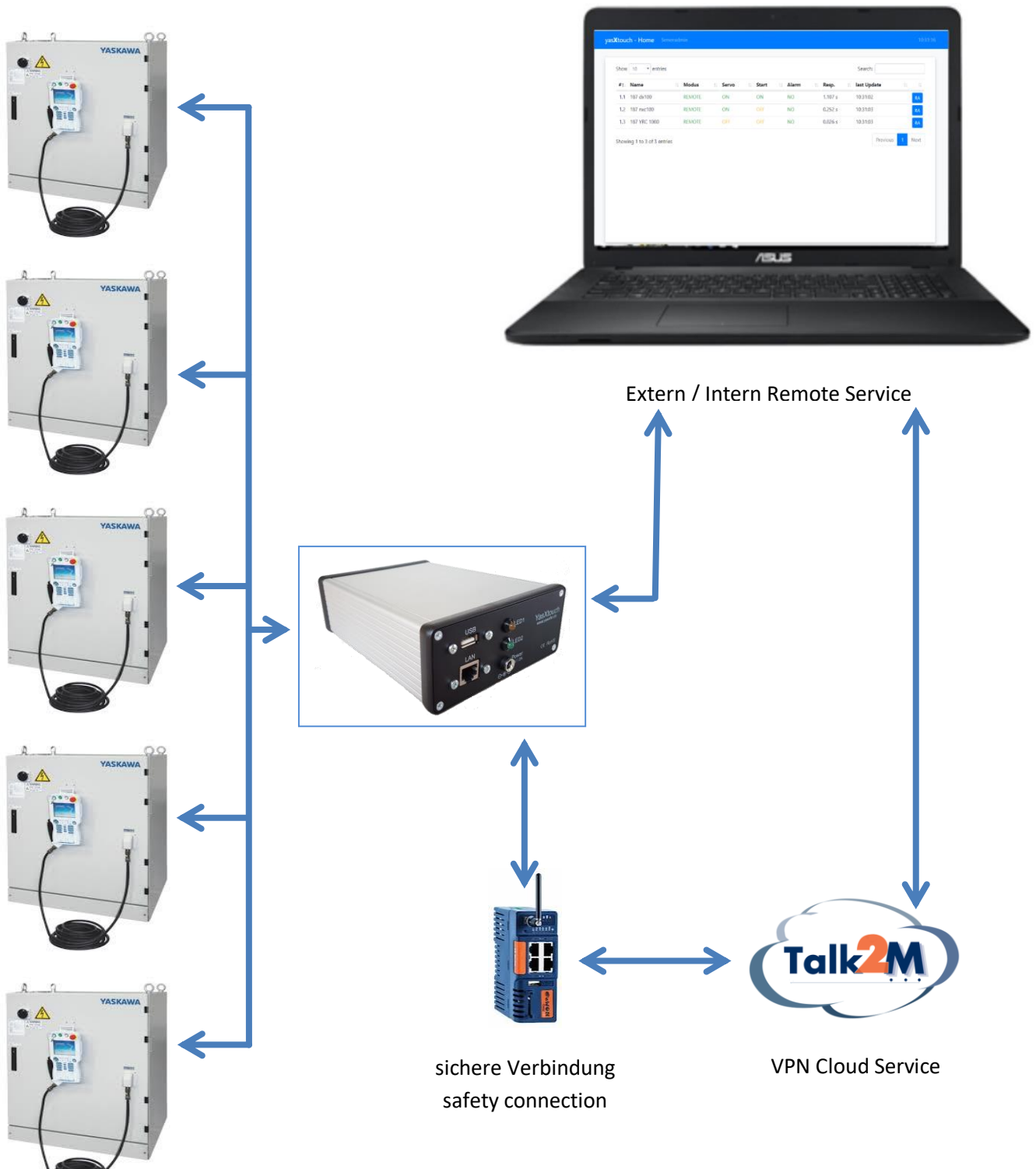


VPN Cloud Service

YasXTouch

YasXfer Remote Maintenance
Scan Tool JSON

Übersicht Robot Admin/Overview Robot Admin



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1. Funktionsweise

Über das JSON Datenformat können Daten aus den Robotersteuerungen für andere Systeme abgefragt und dann weiterverarbeitet werden.

2. Voraussetzung

- YasXTouch Unit komplett konfiguriert mit eingetragenen Controllern
- Web Browser

3. Java Script Object Notation (JSON)

JSON ist ein schlankes Datenaustauschformat, das für Menschen einfach zu lesen und zu schreiben und für Maschinen einfach zu parsen (Analysieren von Datenstrukturen) und zu generieren ist. Es basiert auf einer Untermenge der JavaScript Programmiersprache

3.1 Controller Status

Die Statusinformationen von allen Controllern werden mit folgendem Befehl abgefragt:

[http://\[IP\]/exports/status.json.php](http://[IP]/exports/status.json.php)

Abfrage Beispiel:

<http://192.168.0.5/exports/status.json.php>

Antwort Beispiel:

```
[{"controller_id":"1","controller_name":"DX100
```

```
Werkstatt","status":"0","statuscode":"0","statustext":"","response":"0.075","time":"10:00:01","servo":"1","error":"0","alarm":"0","hold_command":"0","hold_extern":"0","hold_pg":"0","step":"0","cycle":"1","cont":"0","start":"1","save":"0","teach":"0","play":"1","remote":"1"}]
```

3.2 Variablen Status

Es können von jedem eingetragenen Controller einzelne Variablenwerte abgefragt werden

[http://\[IP\]/exports/var.json.php?controller=\[controller nr.\]&var-type=\[variable type\]&var-nr=\[variable nr.\]](http://[IP]/exports/var.json.php?controller=[controller nr.]&var-type=[variable type]&var-nr=[variable nr.])

Mögliche Variablen sind Byte(B), Integer(I), Double Integer(D), String(S) und Positionvariable(P)

Mehrere Variablen vom selben Typ können gleichzeitig abgefragt werden. Diese müssen nur komma-getrennt aufgeführt sein.

Abfrage Beispiel:

<http://192.168.0.5/exports/var.json.php?controller=2&var-type=B&var-nr=3,4>

Antwort Beispiel:

```
{"status":0,"statuscode":0,"statustext":"","data":{"3":"10","4":"250"}}
```

3.3 IO Status

Es können von jedem eingetragenen Controller einzelne IO Adressen abgefragt werden.

[http://\[IP\]/exports/var.json.php?controller=\[controller nr.\]&group=\[adressbyte\]](http://[IP]/exports/var.json.php?controller=[controller nr.]&group=[adressbyte])

Mögliche Adressen sind alle verfügbaren im Controller.

Mehrere Variablen vom selben Typ können gleichzeitig abgefragt werden. Diese müssen nur komma-getrennt aufgeführt sein.

Es wird immer als Antwort der Bytewert und der Zustand der einzelnen Adresse angegeben.

Abfrage Beispiel:

<http://192.168.0.5/exports/io.json.php?controller=2&group=1001,0001>

Antwort Beispiel:

```
{"status":0,"statuscode":0,"statustext":"","data":{"1001":65,"10010":1,"10011":0,"10012":0,"10013":0,"10014":0,"10015":0,"10016":1,"10017":0,"0001":0,"00010":0,"00011":0,"00012":0,"00013":0,"00014":0,"00015":0,"00016":0,"00017":0}}
```

3.4 System Status

Die Systeminformationen von allen Controllern werden mit folgendem Befehl abgefragt:

[http://\[IP\]/exports/system.json.php](http://[IP]/exports/system.json.php)

Abfrage Beispiel:

<http://192.168.0.5/exports/system.json.php>

Antwort Beispiel:

```
[{"controller_id":"1","controller_name":"VRC1000 R1","status":"104","statuscode":"11","statustext":"socket_recv: Resource temporarily unavailable"}, {"controller_id":"2","controller_name":"DX100 an 181","status":"0","statuscode":"0","statustext":"","systemsys":{"system":5,"date":"04.05.2021 20:48","systemNr":"DS4.32.00A(JP\US)-14","time":{"TOTAL":{"control":"0941:26'06","servo":"00364:17'11","playback":"00186:30'35","moving":"00000:24'58"},"R1":{"servo":"00364:17'05","playback":"00186:24'34","moving":"00000:24'58"},"unit":{"R1":{"appli":"ARC WELDING","param":"4.26","name":"HP0020D-A4*","axis":"0011_1111"}}}}, {"controller_id":"3","controller_name":"NX100 an 181","status":"202","statuscode":"113","statustext":"socket_connect: No route to host"}, {"controller_id":"4","controller_name":"DX200 an 181","status":"104","statuscode":"11","statustext":"socket_recv: Resource temporarily unavailable"}]
```

21. Functionality

Using the JSON data format, data from the robot controls can be queried for other systems to processed further.

22. Actual Requirements

- YasXTouch Unit completely configured with registered controllers
- Web Browser

23. Java Script Object Notation (JSON)

JSON is a lean data exchange format that is easy for humans to read, write and easy to parse (analyze data structures) and generate for machines. It is based on a subset of the JavaScript programming language.

23.1 Controller State

The status information from all controllers are queried with the following command:

[http://\[IP\]/exports/status.json.php](http://[IP]/exports/status.json.php)

Query example:

<http://192.168.0.5/exports/status.json.php>

Answer example:

```
[{"controller_id":"1","controller_name":"DX100  
Werkstatt","status":"0","statuscode":"0","statustext":"","response":"0.075","time":"10:00:01","servo":"1","error":"0","alarm":"0","hold_command":"0","hold_extern":"0","hold_pg":"0","step":"0","cycle":"1","cont":"0","start":"1","save":"0","teach":"0","play":"1","remote":"1"},
```

23.2 Variable State

Individual variable values can be queried from each entered controller.

[http://\[IP\]/exports/var.json.php?controller=\[controller nr.\]&var-type=\[variable type\]&var-nr=\[variable nr.\]](http://[IP]/exports/var.json.php?controller=[controller nr.]&var-type=[variable type]&var-nr=[variable nr.])

Possible variables are byte (B), integer (I), double integer (D), string (S) and position variable (P)

Several variables of the same type can be queried at the same time. These only have to be listed, separated by commas.

Query example:

<http://192.168.0.5/exports/var.json.php?controller=2&var-type=B&var-nr=3,4>

Answer example:

```
{"status":0,"statuscode":0,"statustext":"","data":{"3":"10","4":"250"}}
```

23.3 IO Status

Individual IO addresses can be queried from each entered controller.

[http://\[IP\]/exports/var.json.php?controller=\[controller nr.\]&group=\[adressbyte\]](http://[IP]/exports/var.json.php?controller=[controller nr.]&group=[adressbyte])

Possible are all available addresses in the controller.

Several variables of the same type can be queried at the same time. They only have to be separated by commas.

The byte value and the status of the individual address are always given as the response.

Query example:

<http://192.168.0.5/exports/io.json.php?controller=2&group=1001,0001>

Answer example:

```
{"status":0,"statuscode":0,"statustext":"","data":{"1001":65,"10010":1,"10011":0,"10012":0,"10013":0,"10014":0,"10015":0,"10016":1,"10017":0,"0001":0,"00010":0,"00011":0,"00012":0,"00013":0,"00014":0,"00015":0,"00016":0,"00017":0}}
```

23.4 System State

The status information from all controllers are queried with the following command:

[http://\[IP\]/exports/system.json.php](http://[IP]/exports/system.json.php)

Query example:

<http://192.168.0.5/exports/system.json.php>

Answer example:

```
[{"controller_id":1,"controller_name":"VRC1000 R1","status":104,"statuscode":11,"statustext":"socket_recv: Resource temporarily unavailable"}, {"controller_id":2,"controller_name":"DX100 an 181","status":0,"statuscode":0,"statustext":"","systemsys":{"system":5,"date":"04.05.2021 20:48","systemNr":"DS4.32.00A(JP\US)-14","time":{"TOTAL":{"control":"0941:26'06","servo":"00364:17'11","playback":"00186:30'35","moving":"00000:24'58"},"R1":{"servo":"00364:17'05","playback":"00186:24'34","moving":"00000:24'58"},"unit":{"R1":{"appli":"ARC WELDING","param":4.26,"name":"HP0020D-A4*","axis":"0011_1111"}}}}, {"controller_id":3,"controller_name":"NX100 an 181","status":202,"statuscode":113,"statustext":"socket_connect: No route to host"}, {"controller_id":4,"controller_name":"DX200 an 181","status":104,"statuscode":11,"statustext":"socket_recv: Resource temporarily unavailable"}]
```