Communication Protocol between Printer and Server

- Download order

www.gsm-printer.com www.GoodCom.cn

parameter setting in ini file is as follows (for reference):

IP address: **goodcom.5166.info**

IP port: **8090**

Order address:**http:// goodcom.5166.info:8090/order/order.php**

CallBack address:**http:// goodcom.5166.info:8090/order/order_callback.php**

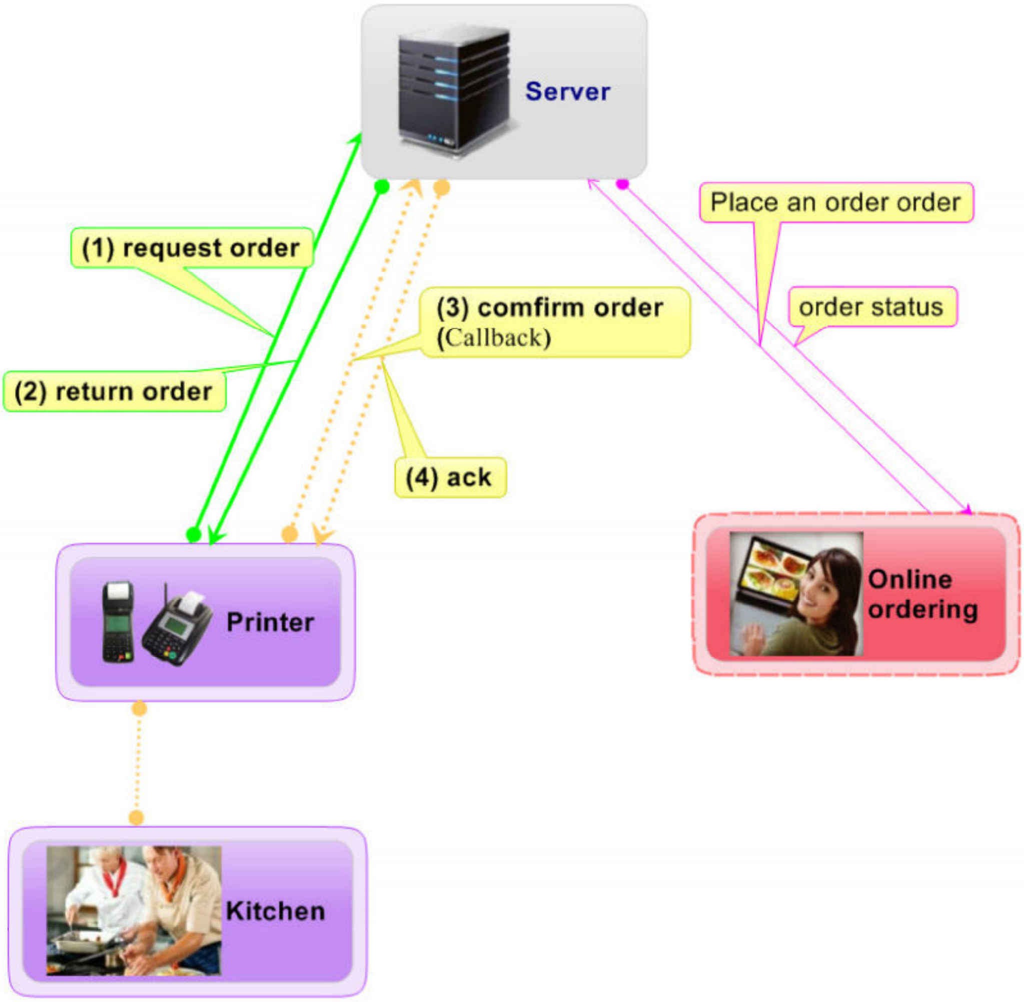
RES ID: **AC001**

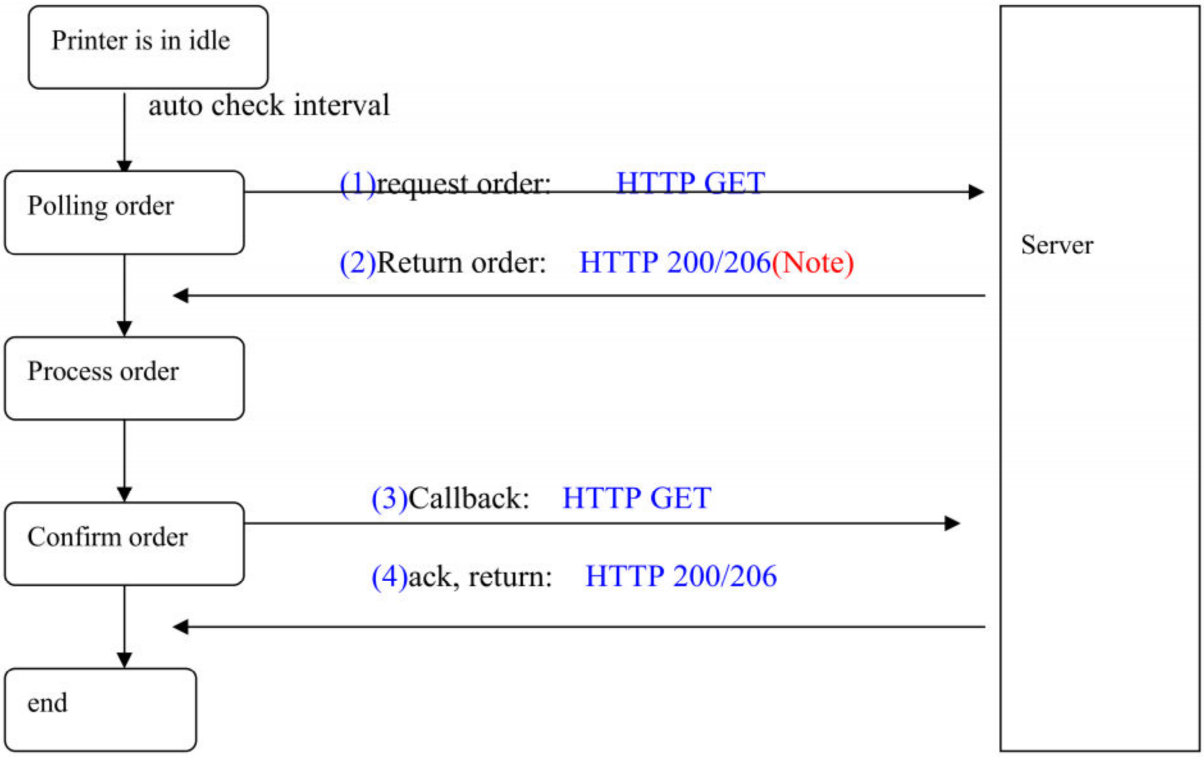
Login Web UserName: **testuser**

Login Web Password: **test**

Use download mode: **PHP/ASP/TXT**

1. Work flow for Printer to process order



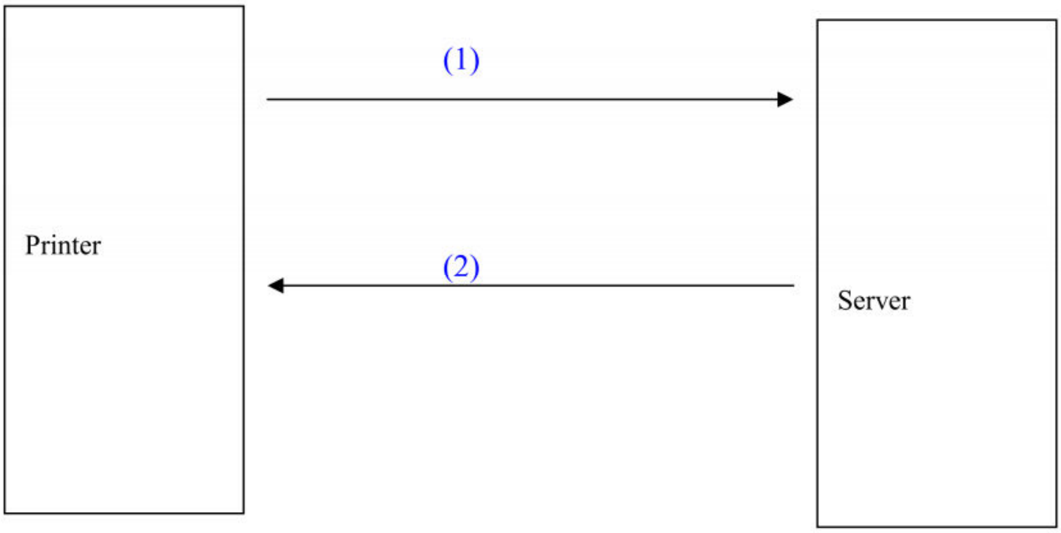


Sketch 1. 1-Processing order

Note: At this time, server should **NOT** delete this order, but the order can be deleted after confirming the order;

2.Polling order

Printer communicates with server via GET protocol of HTTP. It will query server to download the order according to the auto check interval. Server queries database to confirm if any order received. If the sever gets order, it will answer the order data to printer via HTTP Protocol (HTTP 200/ HTTP 206); If no order, the server will answer HTTP 200/HTTP 206 and the Content-Length is 0**.**



Sketch 2.1- Polling Order

2.1 The above(1)is Printer polling order within auto check interval. The Http address is the order's filepath which is stored in the sever. The type for order file can be php/asp/jsp/ txt.

For php/asp/jsp,Printer will attach some parameters when using Get protocol to read order, server reads the parameter and determine whether to return the order content. Thus, there are two polling ways in (1):

(a). php/asp/jsp

Printer will send:

```
GET /order/order.php? a=AC001&u=testuser&p=test HTTP/1.1
RANGE: bytes=0-1023
Host: goodcom.5166.info:8090
```

The "a=AC001" is RES ID

The "u=testuser"is Login Web UserName

The "p=test"is Login Web Password

(b). txt

Printer will send:

```
GET /order/ order.txt HTTP/1.1
RANGE:bytes=0-1023
Host: goodcom.5166.info:8090
```

2.2. The above(2) is the order conent sent by Server.

Server can answer by using HTTP 200 or HTTP 206. But if the order content is long (longer than printer that can read), it **shall** answer via HTTP 206;

(a)Answer HTTP 200

```
HTTP/1.1 200 OK
Content-Length: 125

#01*1*10005*1;Chiken;3.00;2;Beef;6.00;3;rice;2.50;*1.0*0;12.50;4;Tom;Address;15:47
03-08-10;113;7;cod:;008612345678;*Comment#
```

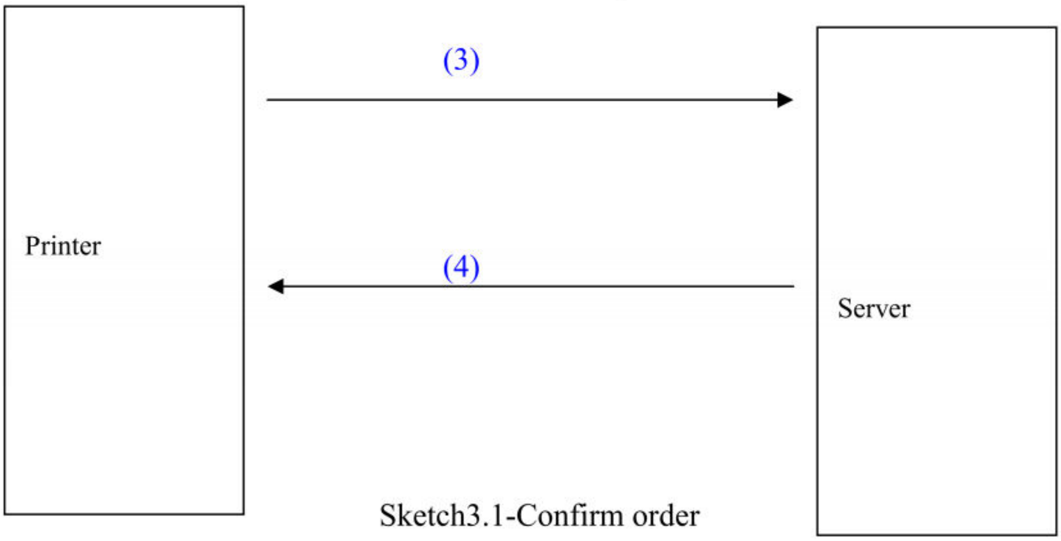
(b)Answer HTTP 206

```
HTTP/1.1 206 Partial content
Content-Length: 125
Content-Range: bytes 0-124/125

#01*1*10005*1;Chiken;3.00;2;Beef;6.00;3;rice;2.50;*1.0*0;12.50;4;Tom;Address;15:47
03-08-10;113;7;cod:;008612345678;*Comment#
```

3.Confirming Order

When Printer receives the order, it will parse the order content with certain format, arrange the order content according to the format and print the order according to the INI parameter. Besides, the INI parameter will determine whether the the order is to be confirm manually or automatically. When order is confirmed, printer will send the HTTP confirmed information to sever, the content is with the Order No., so that sever can know which order should be processed or deleted.



Sketch3.1-Confirm order

3.1. The process (3) above is the confirmed message sent by Printer. The confirmed address is the file that has been saved on server(callback url), whose file type can be php/asp/jsp.

Printer will attach some parameters when using GET protocol to comfirm order, and sever will read the parameter and determine whether to process the order. There are the content:

```
GET
/order/order_callback.php?a=AC001&o=323&ak=Accepted&m=OK&dt=17:10&u=t
estuser&p=test HTTP/1.1
Host: goodcom.5166.info:8090
```

"a" is the "ResID" which had been set in the device (Parameter ID 5 "ResID").
"o" is the "Order No" which come from the order.
"ak" is the operation of accepting/Rejecting order. If the order is accepted, ak=Accepted. While for rejected order, ak=Rejected
"m" is the description of accepting/Rejecting order. If accept the order, m=ok. If reject order, "m" is the reject reason that the operator selected when rejecting the order.
"dt" is the time that the operator input when accepting/Rejecting order.
"u" is the user name for login your web server (Parameter ID 58 "Login Web User Name").
"p" is the password for login your web server (Parameter ID 59 "Login Web Password").

3.2. The process (4) above is the return message sent by the server, which can be used for confirming whether the Callback of Printer has been received successfully. Server will send the following content as responds:

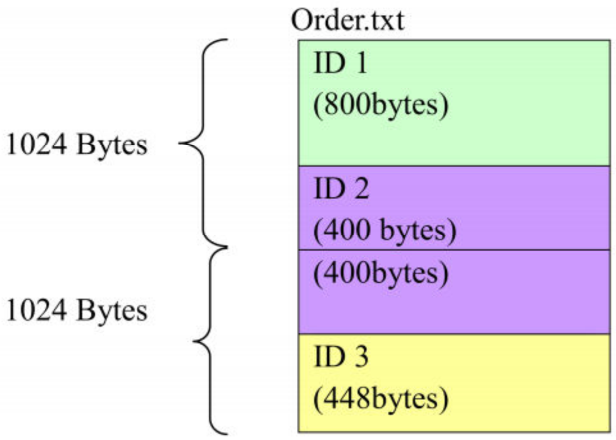
```
HTTP/1.1 200 OK
Content-Type: text/plain
```

P.S: For how the Printer recognize the order content and order No., please refer to the details about order format introduction.

4. Attention I

When txt is used as the format of order by the server (it is also applied to the format of asp/php on the condition that several orders are sent back in one time), if the file is more than 1024Bytes, the time for deleting the order should be paid attention to. **You'd better delete order until all of orders of the order file are processed, not delete one when processing per order, which may lead to errors for receiving data.**

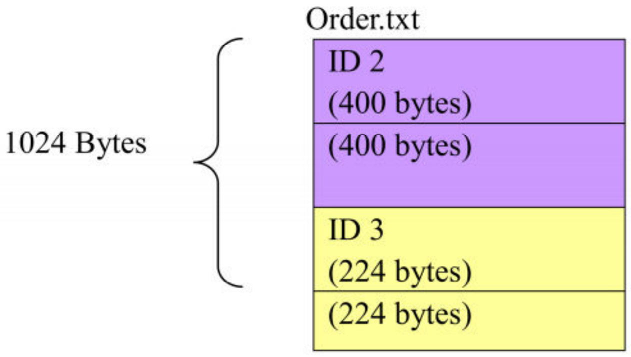
For example, there are 3 orders in one order file in the following sketch,.



Note: it need CRLF char between two order,the CRLF char is “0D 0A” in hex format,for string of php code,it is “\r\n”.

4.1. Printer read the content of 0~1023 bytes (i.e 1024bytes) at first, Then the complete order of ID1 and partial ID2 are read. At this time, ID1 will wait for confirm,and then send the confirm message to server(sending callback) after user confirm.

4.2. Then the printer will go on to read 1024~2047(i.e.1024bytes). Normally, it will get the rest of ID2 and complete content of ID3, and then ID2 & ID3 can be processed correctly. However, if the sever deletes the ID1 when receiving the confirm message of ID1, the order file will be changed to be as below:

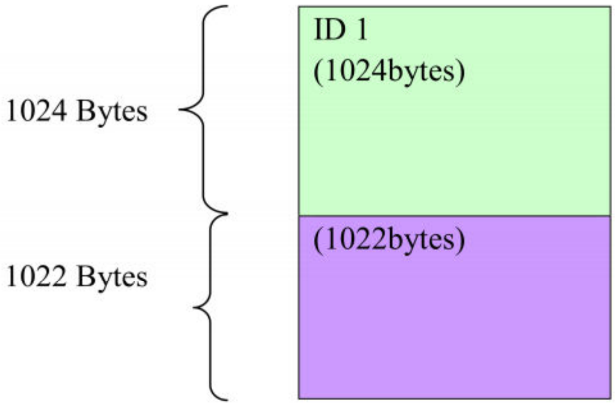


At this time, the order content which printer gets from 1024~2047 has been changed. ID2 will lose the second pat, and ID3will lose the first part. For different order length, the date that missing will be different. That is, the data will get mixed up.

5. Attention II

When php/asp/jsp is used by the server, if one order is more than 1024Bytes, the printer will get the order by several times, and only get 1024bytes each time.

For example, there is one order which have 2046bytes in the following sketch,.



5.1. Printer reads the content of 0~1023 bytes (i.e 1024bytes) at first.

E.g.:

```
GET /order/ order.php HTTP/1.1
RANGE:bytes=0-1023
Host: goodcom.5166.info:8090
```

At this time, the server will return the data of 0-1023 bytes of ID1.

N. B: The server SHOULD support HTTP206, i.e. with Content-length AND content-range.

e.g.

```
HTTP/1.1 206 Partial content
Content-Length: 1024
Content-Range: bytes 0-1023/2046
```

……

5.2. Printer analyzes the received data of 1024 bytes and decides which part of data should be continued to poll, but it will still read the data of 1024 bytes.

e.g.

```
GET /order/ order.php HTTP/1.1
RANGE:bytes=991-2014
Host: goodcom.5166.info:8090
```

At this time, the server needs to retrun the data of ID1, and the range is 991-2014. (**TIPS**: 991 is NOT fixed, and it is ONLY an example. i.e. it can be other value, which is determined by the ordre contents.). There are 1024 bytes in total.

e.g.

```
HTTP/1.1 206 Partial content
Content-Length: 1024
Content-Range: bytes 991-2014/2046

……
```

5.3 Printer analyzes the received data of 1024 bytes and decides which part of data should be continued to poll.

E.g.

```
GET /order/ order.php HTTP/1.1
RANGE:bytes=2000-3023
Host: goodcom.5166.info:8090
```

At this time, the server needs to retrun the remaining data of ID1. Since there are only 46bytes of the remaining data, the range is 2000-2045. i.e.46 bytes in total.

e.g.

```
HTTP/1.1 206 Partial content
Content-Length: 46
Content-Range: bytes 2000-2045/2046

……
```

The printer reads all the data of this order, then the order will be printed and wait for the user to accept/rejectthe order. After the user accepts/rejects the order, the printer will send the Order ID of ID1 to server. Then the server can mark ID1 as dealt order.