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(54) Title: PACKET PROCESSING METHOD IN CLOUD COMPUTING SYSTEM, HOST, AND SYSTEM

(54) 发明名称: 云计算系统中报文处理的方法、主机和系统

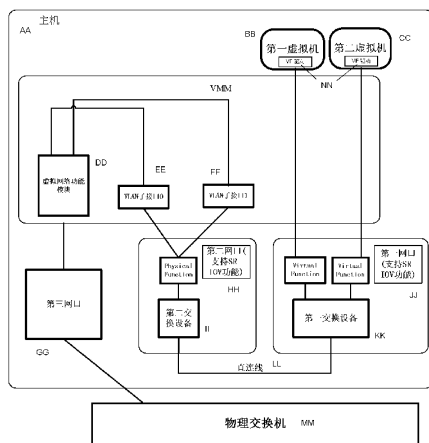


图 2

AA HOST
BB FIRST VIRTUAL MACHINE
CC SECOND VIRTUAL MACHINE
DD VIRTUAL NETWORK FUNCTIONAL MODULE
EE VLAN INTERFACE 0
FF VLAN INTERFACE 1
GG THIRD NETWORK PORT
HH SECOND NETWORK PORT (SUPPORTING AN SR-IOV FUNCTION)
II SECOND SWITCHING DEVICE
JJ FIRST NETWORK PORT (SUPPORTING AN SR-IOV FUNCTION)
KK FIRST SWITCHING DEVICE
LL DIRECT CONNECTION LINE
MM PHYSICAL SWITCH
NN VF DRIVER

(57) Abstract: Embodiments of the present application provide a packet processing method in a cloud computing system, a host, and a system. At least one network card is connected to the host, and the at least one network card comprises a switching device and at least three network ports. A virtual machine running on the host sends a packet to a second virtual machine by means of a VF connected to the first virtual machine, the data packet carrying an identifier of the VF sending the data packet; a switching device of a first network port receives the data packet and compulsorily forwards the data packet to a second network port through a network line; a switching device of a second network port sends the data packet to a VLAN subinterface having a same VLAN identifier with the data packet according to the VLAN identifier carried by the data packet; the VLAN subinterface receives the data packet, removes the VLAN identifier of the data packet, and sends the data packet to a virtual network functional module; and the virtual network functional module performs network function processing on the modified data packet, and then sends the processed data packet to the second virtual machine. In a scenario of a network card direct connection, after a virtual machine sends a data packet from a directly-connected VF, the virtual machine can send the data packet to a virtual network functional module in a VMM by using the above manner, and network function processing is performed on the data packet by using rich virtual network functions provided by the software to a user.

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RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG)。

本国际公布：

— 包括国际检索报告(条约第21条(3))。

(57) 摘要：本申请的实施例提供了一种云计算系统中报文处理的方法、主机和系统，至少一个网卡连接到该主机，所述至少一个网卡包含交换设备以及至少三个网口，主机上运行的第一虚拟机通过与自身相连的所述VF向第二虚拟机发送数据包，所述数据包携带发出所述数据包的VF的VLAN标识，第一网口的交换设备接收所述数据包，将所述数据包通过所述网线强制转发到所述第二网口，第二网口的交换设备根据所述数据包携带的VLAN标识，将所述数据包发送到与所述数据包具备相同VLAN标识的VLAN子接口，所述VLAN子接口接收所述数据包，去除所述数据包的VLAN标识，将所述数据包发送到所述虚拟网络功能模块，由所述虚拟网络功能模块对所述修改后的数据包进行网络功能处理后，将处理后的数据包发送到第二虚拟机。在网卡直通的场景中，虚拟机将数据包从直通的VF发出后，通过上述方式可以将数据包发送到VMM中的虚拟网络功能模块，利用该软件模块为用户提供丰富的虚拟网络功能，实现对数据包进行虚拟网络功能处理。