

# CASE STUDY: wireless vending machines

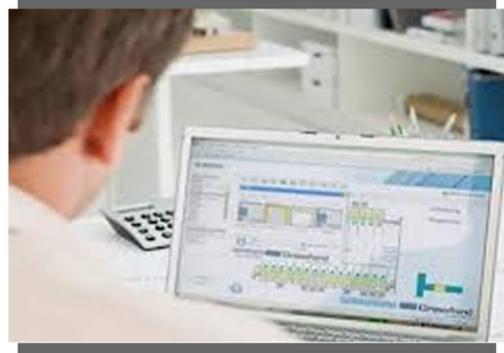


## RICON Mobile provides hardware (3G/4.5G routers) and software (RMS Ricon Management System) for wireless vending machines for retail.

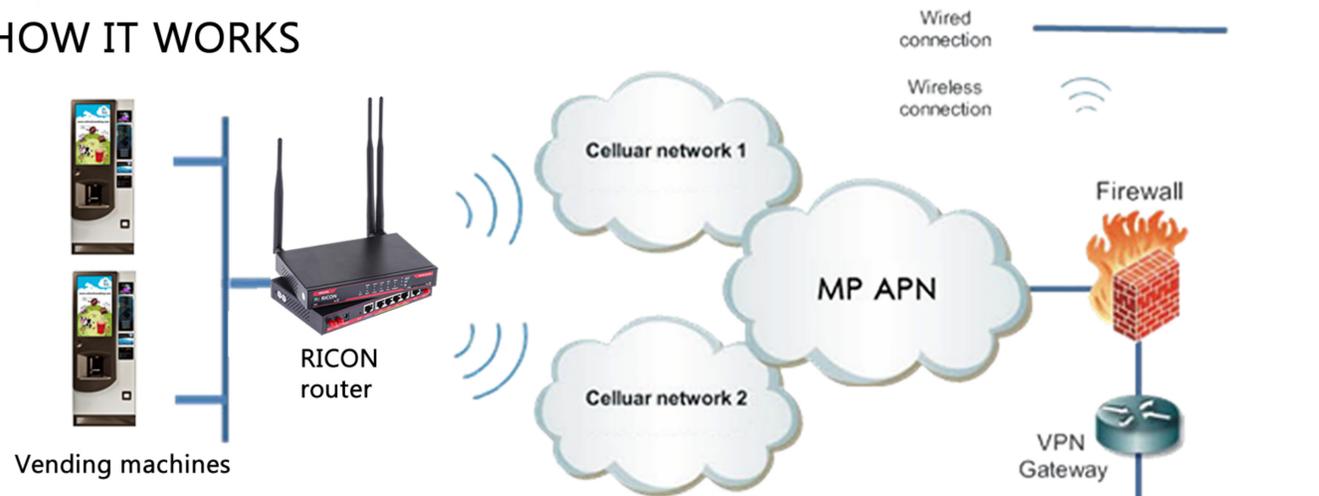
Demand for vending terminals in many retail business sectors is growing. Different from staff service self-service vending machines can provides 24/7 service to your customers, to satisfy their demands every day and hour. Wireless mobile network for data transfer from machines is getting more and more popular. Why is that? Using mobile wireless network for data connectivity gives you freedom to change your vending machines locations any time it is needed. Mobile wireless network is also cost effective in case there is no landline available in the location you would like to put your vending machine. No expensive investment in wire network infrastructure is needed then. The cellular signal coverage is all you need.



Key requirements for modern vending machines installations are: security, stability, reliability. RICON wireless networking solution combines all of those requirements and provides reliable, flexible and cost effective wireless networking solutions for retail sector. With the help of RICON solutions you can put your vending terminals anywhere you want without astronomical investment in wireline network infrastructure. Furthermore RMS Ricon Management System, working together with RICON router as a part of the RICON solution; monitors connectivity on the mobile network, informs about network availability, signal strengths, etc., also controlling devices remotely.



### HOW IT WORKS



### RICON SOLUTION FOR WIRELESS VENDING MACHINES APPLICATIONS

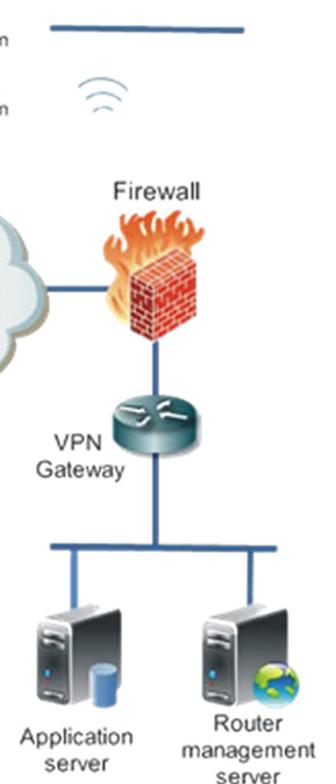
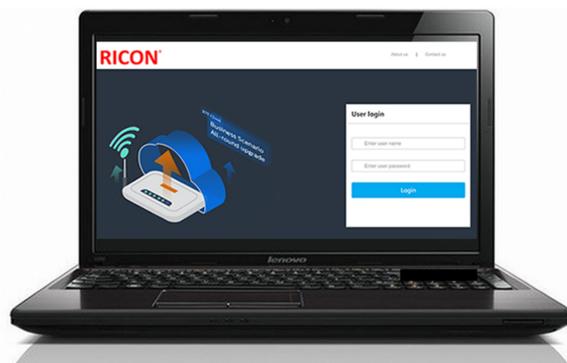
#### 1. hardware:

RICON 3G/4.5G routers



#### 2. software:

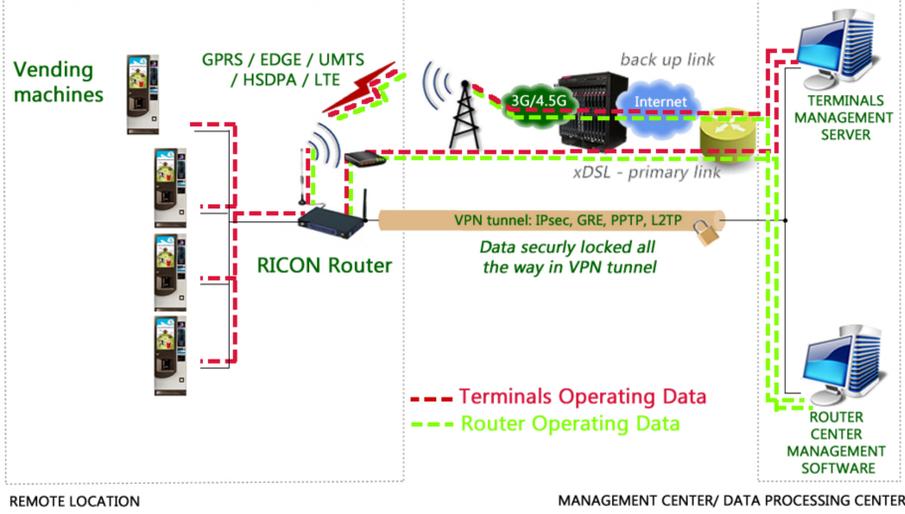
RMS Ricon Management System



CE 0678 RoHS

- VPN
- Dual RF-Module
- Dual SIM
- Wi-Fi Optional
- GPS optional
- LTE
- Cellular/WAN link backup
- NAT Virtual server
- WAN/PPPoE
- WPS

### Option 1: single module/ single SIM

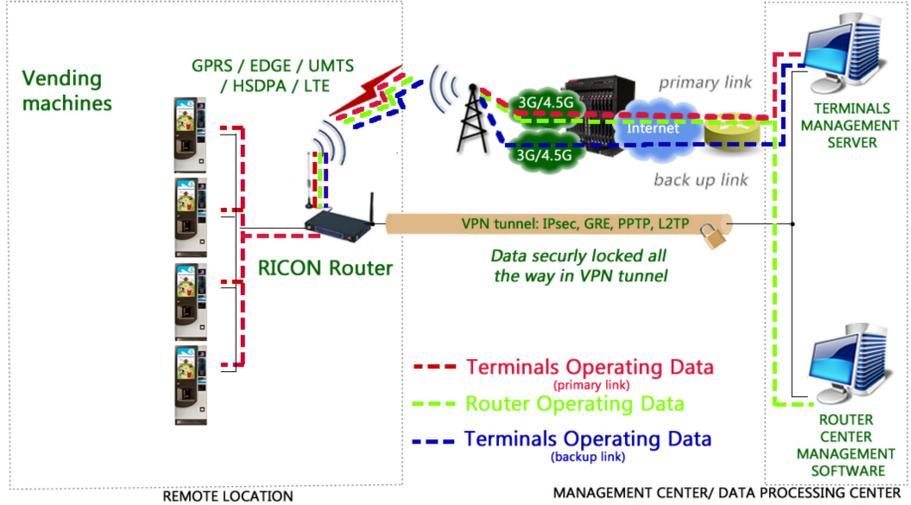


Portfolio of RICON products and services enables to deploy secure and robust wireless network. Embracing connectivity using wireless 3G and 4.5G technologies our Customers benefit from reliable network even in the most remote, hazardous locations. RICON team cooperates closely with Customers to provide them with a most suitable application. RICON has experience and know-how which we would like to share with you.

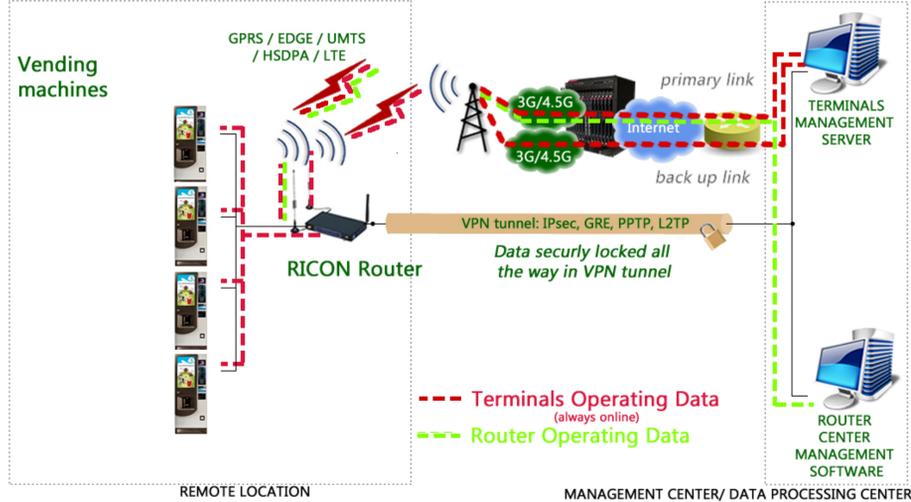
RICON routers and management platform major features are specially designed to meet multiply requirements of the secure wireless M2M projects:

- Dual SIM functionality enable seamlessly alternative between two networks when one of the network signal is poor or enable to switch upon desire to other network with flexible switching time,
- Dual GSM module enable persistent network connectivity with no break in time during the network switch,
- Guaranteed security and privacy in all the transactions: VPN support, GRE over IPsec, IPsec over PPTP/L2TP,
- Safety mechanism to avoid unintentional SIM cards manipulations,
- 4 x Ethernet 10/100M is available by default,
- NAT/PAT/Port forwarding dynamically and static options are available by default,
- Router supports DHCP Server, DHCP relay and other standard DHCP features by default,
- HTTPS/HTTP supports are available by default,
- Telnet and SSH accesses,
- SNMP agent,
- LTE/ HSDPA/HSDPA/UMTS/EDGE/GPRS Quadband support,
- RMA process for faulty routers,
- Configured via GUI and remotely via RMS Ricon Management System,
- Centralized control for firmware upgrade available as a section of the RMS Ricon Management System
- Centralized statistic collection to show router uptime, network attachment, signal strength and where possible latency and packet loss per device and per router group on RMS Ricon Management System,
- Centralized control for the configuration management and group based configuration.
- For this specific project all the routers can be delivered with a project related pre-configuration.

### Option 2: single module/ dual SIM



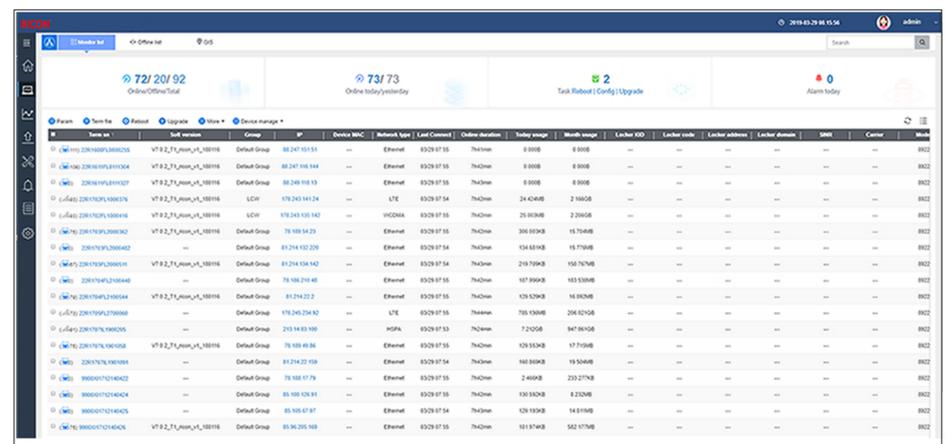
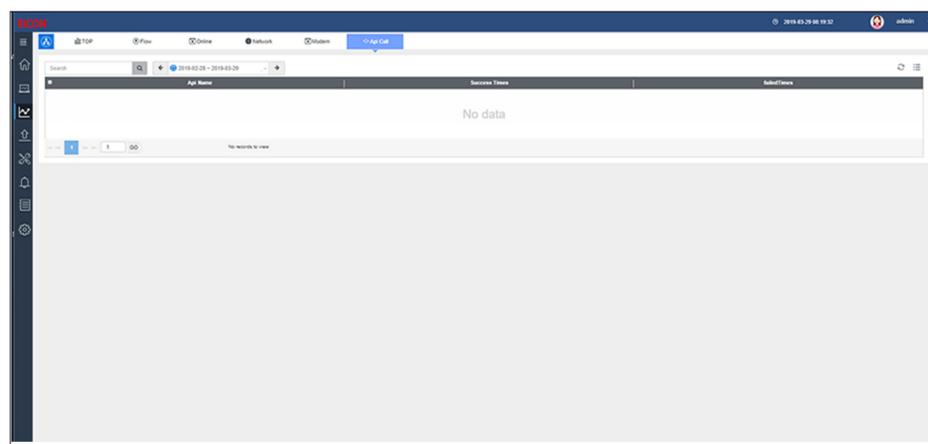
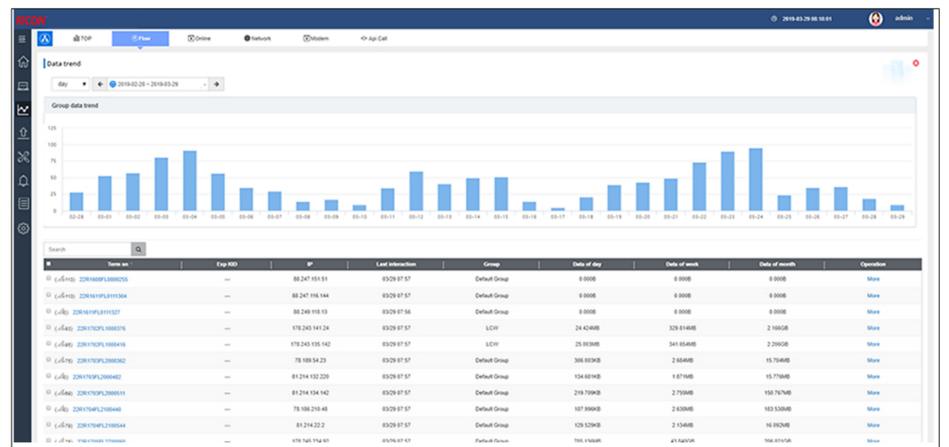
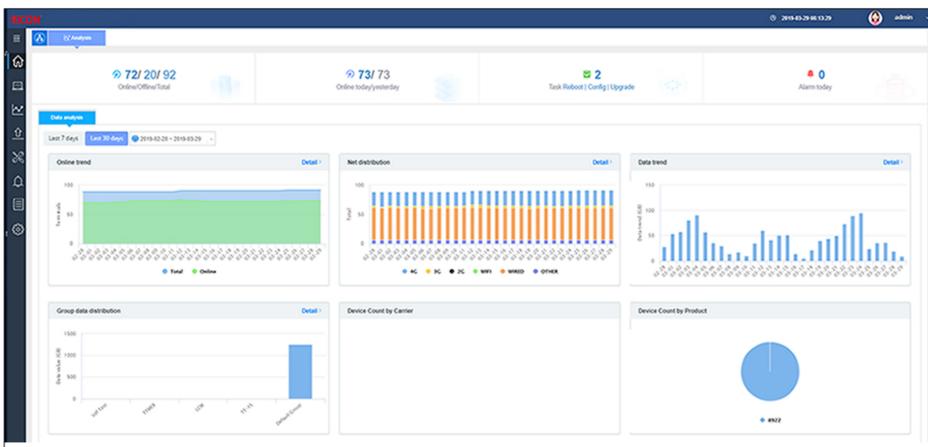
### Option 3: dual module/ dual SIM



RMS Ricon Management System centralizes access to all remote nodes, giving the user ultimate management control over the hardware. RMS Ricon Management System provides full control over data transfer and network diagnostics of thousands of routers and mobile devices on the network. Remote accessibility to the RMS Ricon Management System from any location gives the user fingertip control over multiple devices allowing the user to assess, diagnose, manage, control and resolve any problem within a very short period of time. Platform has a major impact on the cost of ownership, allowing redistribution of other valuable resources.

Some of the RMS Ricon Management System features include:

- touchless installation by remote configuration,
- device grouping,
- batch remote configuration,
- scheduled remote configuration,
- scheduled remote firmware upgrade/downgrade,
- multiple simultaneous terminal configuration updates,
- setting customized SLA warning thresholds,
- SLA based live alarms,
- live connectivity information,
- live reports,
- terminals detailed data stream info,
- terminals detailed data stream reports for trend analyses,
- terminals alarms reports for trend analyses,
- more information



# RICON cellular - VPN - 3G/4.5G routers

## Specifications

- Dual module/WAN/Wi-Fi multiple network mode backup
- WAN port support PPPoE, static IP, DHCP client.
- LCP/ICMP/flow/heartbeat check, ensure network usability
- SNMP network management, NTP support
- Local & remote firmware update
- Local & remote log check
- Supports DNS proxy and Dynamic DNS (DDNS)
- Supports timing operation

## Wi-Fi Characteristics

- Standard: IEEE 802.11b/g/n
- WEP, WPA and WPA2 encryption
- WPS key
- AP, Client, station, bridge mode support

## VPN

- IPSec
- PPTP/L2TP client
- GRE/IPIP

## Available Cellular Network

- LTE 800/900/1800/2100/2600MHz
- UMTS/HSPA+900/2100MHz
- GSM/GPRS 900/1800/1900MHz
- HSPA+/HSUPA/HSDPA/ WCDMA /UMTS 2100/1900/900/850/800MHz ;
- EDGE/GPRS/GSM 1900/1800/900/850MHz
- HSUPA/HSDPA/UMTS 2100/1900/850MHz
- EDGE/GPRS/GSM 1900/1800/900/850MHz
- HSUPA/HSDPA/UMTS 2100/1900/900/850MHz
- EDGE/GPRS/GSM 1900/1800/900/850MHz
- CDMA 2000/EVDO Rev.A 800MHz
- CDMA 2000/EVDO Rev.A 800/1900MHz

## Interfaces

- 4x10/100Mb LAN interface
- 1x10/100Mb WAN interface
- 1x RS-232 console port(RJ45)
- 2x SMA-K antenna interface
- 2x SMA-K antenna interface (Wi-Fi)
- 2x Standard SIM/R-UIM interface
- 1x Standard DC power interface

## Status LEDs

- System
- Power
- WLAN (Optional)
- WAN
- LAN (LAN1~LAN4)
- RF
- NET

## Routing Protocols

- Static route
- RIPv2/OSPF dynamic route

## Ethernet Standard

- IEEE 802.3
- IEEE 802.3u

## Firewall & Filtering

- IP packet/Domain/MAC filter
- NAT
- DMZ

## Other

- 188mm x 121mm x 28mm
- Weight: 580g
- Temperature: -30°C~+70°C

## Device Management

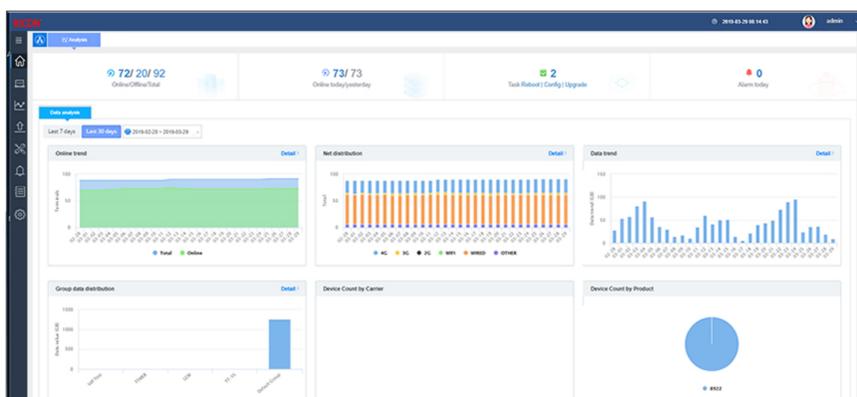
- Local or remote web browser (IE v8 or above)
- CLI/Telnet command
- RMS Ricon Management System (optional)
- SSH config (optional)



## RMS Ricon Management System

provides full control of multiply 3G/4.5 routers for diagnostics and maintenance of all the mobile devices on the network.

CE 0678 RoHS



ID	Device Name	Group	IP	Service MNC	Network Type	Last Connect	Online duration	Timing range	Month usage	Locked BDN	Locker code	Locker address	Locker domain	SNMP	Carrier	Remark
000001	VT82_T1_000001	Default Group	88.247.181.51	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000002	VT82_T1_000002	Default Group	88.247.181.54	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000003	VT82_T1_000003	Default Group	88.248.188.15	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000004	VT82_T1_000004	Default Group	88.248.188.16	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000005	VT82_T1_000005	Default Group	88.248.188.17	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000006	VT82_T1_000006	Default Group	88.248.188.18	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000007	VT82_T1_000007	Default Group	88.248.188.19	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000008	VT82_T1_000008	Default Group	88.248.188.20	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000009	VT82_T1_000009	Default Group	88.248.188.21	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000010	VT82_T1_000010	Default Group	88.248.188.22	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000011	VT82_T1_000011	Default Group	88.248.188.23	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000012	VT82_T1_000012	Default Group	88.248.188.24	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000013	VT82_T1_000013	Default Group	88.248.188.25	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000014	VT82_T1_000014	Default Group	88.248.188.26	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000015	VT82_T1_000015	Default Group	88.248.188.27	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000016	VT82_T1_000016	Default Group	88.248.188.28	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000017	VT82_T1_000017	Default Group	88.248.188.29	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000018	VT82_T1_000018	Default Group	88.248.188.30	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000019	VT82_T1_000019	Default Group	88.248.188.31	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000020	VT82_T1_000020	Default Group	88.248.188.32	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
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000023	VT82_T1_000023	Default Group	88.248.188.35	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000024	VT82_T1_000024	Default Group	88.248.188.36	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
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000026	VT82_T1_000026	Default Group	88.248.188.38	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000027	VT82_T1_000027	Default Group	88.248.188.39	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000028	VT82_T1_000028	Default Group	88.248.188.40	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000029	VT82_T1_000029	Default Group	88.248.188.41	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000030	VT82_T1_000030	Default Group	88.248.188.42	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
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000032	VT82_T1_000032	Default Group	88.248.188.44	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000033	VT82_T1_000033	Default Group	88.248.188.45	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000034	VT82_T1_000034	Default Group	88.248.188.46	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000035	VT82_T1_000035	Default Group	88.248.188.47	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
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000038	VT82_T1_000038	Default Group	88.248.188.50	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000039	VT82_T1_000039	Default Group	88.248.188.51	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000040	VT82_T1_000040	Default Group	88.248.188.52	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
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000042	VT82_T1_000042	Default Group	88.248.188.54	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
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000047	VT82_T1_000047	Default Group	88.248.188.59	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000048	VT82_T1_000048	Default Group	88.248.188.60	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000049	VT82_T1_000049	Default Group	88.248.188.61	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
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000054	VT82_T1_000054	Default Group	88.248.188.66	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—	—	—	—	—	88012
000055	VT82_T1_000055	Default Group	88.248.188.67	—	EBroad	8/29 07:56	7d20m	8:0000	8:0000	—	—					