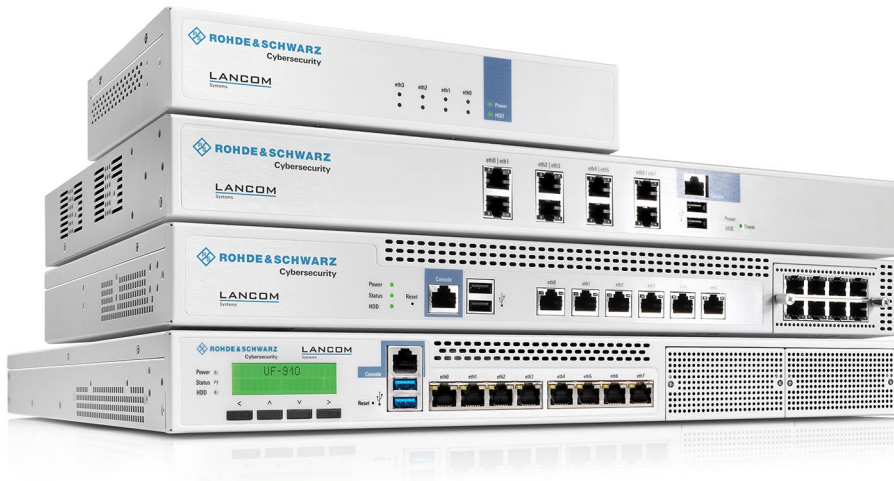**Security**

LANCOM Sizing Guide R&S®Unified Firewalls

Two steps to the right decision

This sizing guide will help you to select the LANCOM R&S®Unified Firewall appliance or virtual firewall that best suits your requirements. The following two steps will result in the best possible assessment:

> Determine the number of effective UTM users
> Select the most suitable appliance from the range of LANCOM R&S®Unified Firewalls or an appropriate vFirewall

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Step 1: Determine the number of effective UTM users

Table 1 (at the end of Step 1) provides the basis for determining the number of effective UTM users. The following summarizes the key background information you need to complete Table 1.

Total number of all real users
The starting point is the total number of real users. Users are all of the devices with an IP address, including servers and workstations.

Notes
> If several users communicate through a device with a single IP address, you need to consider the number of individual users.
> Not to be forgotten are users who connect to the firewall-protected network through access points, or from other branch offices and production environments.

Enter the value determined for the total number of real users into the left-hand column of Table 1.

Number of power users
Users who are more active consume more of the resources provided by the firewall for UTM protection. For this reason we classify users in terms of normal and power usage based on the features listed below. Note that at least one characteristic on the right-hand side of the overview must be fulfilled in order to classify power users.

	"Normal" user	"Power" user
Qualitative behavior	Mainly moderate surfing with a web browser to use search engines, news pages or e-mail portals; evenly spread over the working day	Business (e.g. ERP, teleconferencing, web office suite, webinars, cloud services), intensive browsing using search engines, lots of media transmissions and file downloads with intense peak activity
Number of e-mails per working day	Less than 70 e-mails per working day	More than 70 e-mails per working day
Data volumes	Less than 500 MBytes per working day	More than 500 MBytes per working day

Note
> Helpful in determining the number of power users are historical data such as the average number of e-mails per user during a working day.

Calculating the total number of "effective users"
In order to obtain a common basis for the calculation despite different user types, we determine the total number of "effective users" below.
For later consideration, please note down the numbers of "normal" and "power" users. Enter the number of user types into the top two rows of the second column of Table 1. For both user types, multiply the number of real users by the corresponding weighting factor per user type. "Normal" user behavior remains unchanged (factor 1) and "power" users are weighted at 1.3. Enter the results into the top two rows of the right-hand column of Table 1.

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You should also determine whether there is a need for more VPN connections, for example using figures based on your experience. Multiply the average number of concurrent VPN connections during a working day by a factor of 1.3 and enter the value into the last column in Table 1.

To calculate the number of effective users, take the sum of the values in the top three rows of the right-hand column of Table 1.

Allow for system load and determine the number of "effective UTM users"
The system load must also be taken into account. The number of "effective UTM users" allows for an increase in complexity as the number of users increases and network infrastructure grows, for example through Active Directory and increasing numbers of network components and servers. We allow for this with a 30% overhead. Multiply the number of effective users calculated in step 1 by a factor of 1.3 and enter this into the next row of Table 1.
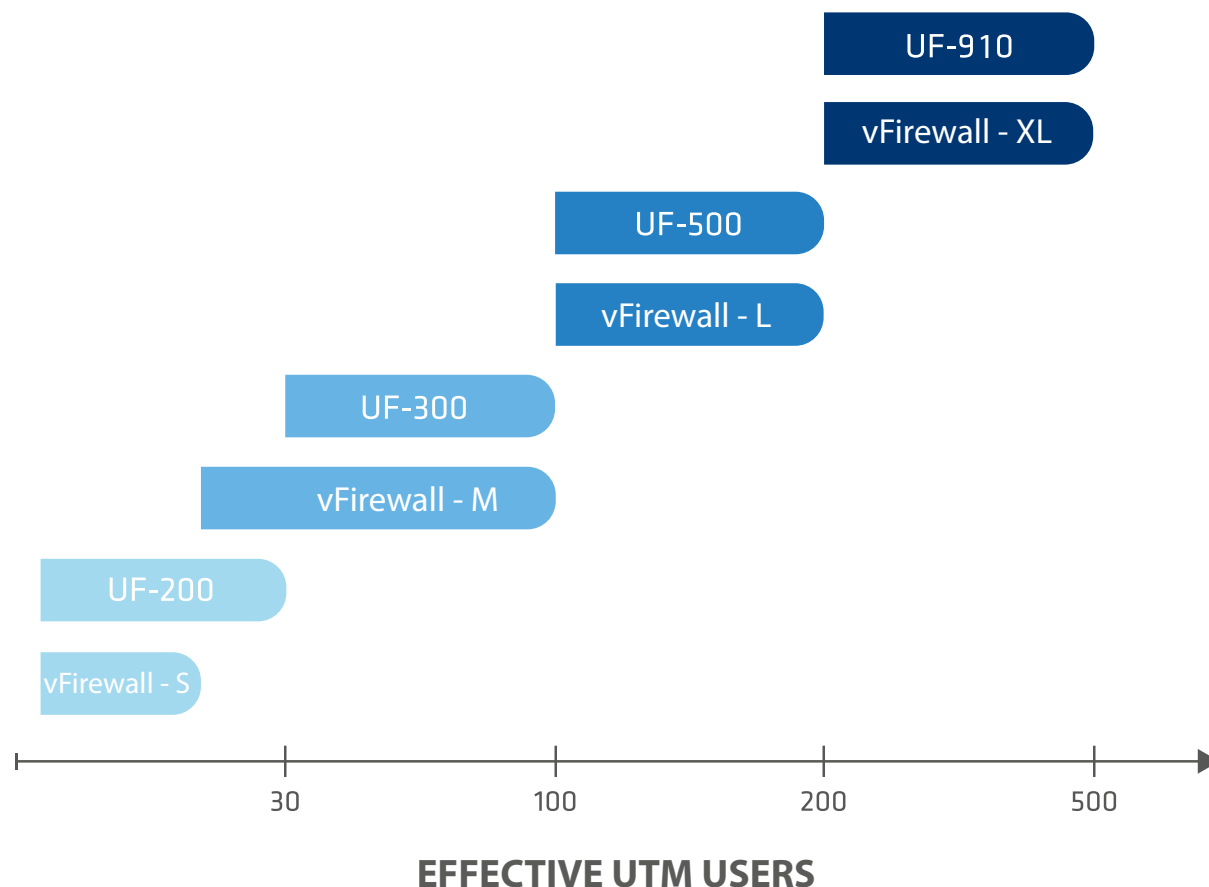
Note
> You should also allow for special local requirements: Is there high volume of data traffic on the network, for example from or between several servers, that needs to be processed by the firewall? Are there web or e-mail servers? For these cases you should use a higher multiplier than 1.3, e.g. 1.6, to determine the "number of effective UTM users".

	Number	Weighting	Number of effective users
Total number of "normal" users		x 1.0	=
Total number of "power" users		x 1.3	=
Average number of concurrent VPN connections		x 1.3	=
		Total number of effective users:	
		x 1.3 (system load)	=
			Total number of effective UTM users

Table 1: Calculation of the total number of effective UTM users

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Step 2: Identifying the right appliance from the range of LANCOM R&S®Unified Firewalls

The number of effective UTM users is now assigned to the appropriate LANCOM R&S®Unified Firewall.

UF-910

vFirewall - XL

UF-500

vFirewall - L

UF-300

vFirewall - M

UF-200

vFirewall - S

30   100   200   500

EFFECTIVE UTM USERS

Notes

> You may have identified a number of effective UTM users for which two different LANCOM R&S®Unified Firewalls or vFirewalls come into question. Consider whether the number of effective UTM users could increase over the next few years, for example by hiring new employees, expanding production facilities, or commissioning a server.

> If you need high availability with redundant power supplies, then the UF-910 is the right choice for you.

> The UF-50 and UF-100 only support specific UTM functions and thus are not taken into consideration in the above calculation.

Local test installations

So you have determined that you have a high number of effective UTM users and have selected a suitable appliance. How about trying out its performance with a test installation? Please contact our sales and pre-sales team and arrange an appointment at your location.

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LANCOM R&S®Unified Firewalls

LANCOM R&S®Unified Firewalls	UF-50	UF-100	UF-200	UF-300	UF-500	UF-910
Hardware properties						
Ports	4x GE copper	4x GE copper	4x GE copper	8x GE copper	6x GE copper	8x GE copper
Opt. extension module	–	–	–	–	yes (1G ETH, 1G SFP)	yes (1G ETH, 1G SFP, 10G SFP+)
Power supply & memory redundancy	–	–	–	–	–	yes
System performance						
IPS/IDS throughput (Mbps)	–	–	550	635	1,295	3,780
Firewall throughput (Mbps)	2,600 (UDP)	3,800 (UDP)	3,800 (UDP)	7,700 (UDP)	13,400 (UDP)	60,000 (UDP)
VPN throughput (Mbps)	200 (IPSec)	430 (IPSec)	430 (IPSec)	620 (IPSec)	1,260 (IPSec)	4,280 (IPSec)
Concurrent sessions	520,000	1,000,000	1,000,000	1,000,000	2,000,000	16,700,000
New sessions per second	8,000	11,000	11,000	13,000	33,000	130,000
Number of users*	recom. for up to 10 users	recom. for up to 30 users	recom. for up to 30 users	recom. for up to 100 users	recom. for up to 200 users	recom. for up to 500 users
Power						
Input voltage (V)	100-240	100-240	100-240	100-240	100-240	100-240
Power consumption (W)	36	36	36	150	150	2 x 300
Operating environment						
Operating temperature (°C)	0-40	0-40	0-40	0-40	0-40	0-40
Relative humidity (%)	5-90	5-90	5-90	20-90	20-90	5-90
Dimensions						
WxHxD (mm)	225 x 44 x 150	220 x 44 x 176	220 x 44 x 176	438 x 44 x 292	431 x 44 x 305	431 x 44 x 468

* At simultaneous usage of all UTM features by all users

Comparison LANCOM vFirewall Licenses

	LANCOM vFirewall - S	LANCOM vFirewall - M	LANCOM vFirewall - L	LANCOM vFirewall - XL
Cores	1	2	4	16
RAM	4	8	16	64
Rec. number of users*	Recom. for up to 20 users	Recom. for up to 100 users	Recom. for up to 200 users	Recom. for up to 500 users
VLAN	16	32	64	256

* At simultaneous usage of all UTM features by all users

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