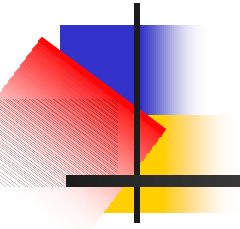


# AddPac Technology Gatekeeper Performance



2003. 11

**AddPac** Technology

R & D Center



# Contents

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- ❑ Gkburst – GateKeeper burstness test.
- ❑ Gkgen – GateKeeper periodic load test.
- ❑ Discussion



# Performance Tool - Gkburst.

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- ❑ This program can measure the burstiness of the gatekeeper call handling ability.
- ❑ This program reports the number of RRQ messages per second by sending a lot of RRQ messages to the gatekeeper within a very short time.
- ❑ This program reports the number of ARQ messages per second by sending a lot of ARQ messages to the gatekeeper within a very short time.



# Gkburst - Usage

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❑ `% gkburst -gk 172.16.1.10 -n 1000`

✓ Above command shows that gatekeeper address is 172.16.1.10 and the iteration number of RRQs, ARQs call load generation messages is one thousand(1000)

✓ In Pentium III 800 MHz Linux based PC environment (minimum requirement) , 1000 RRQ messages can send to Embedded Gatekeeper within 1 second from PC.

✓ RCF messages from Gatekeeper is measured.

✓ Next, 1000 ARQ messages are sent to Gatekeeper within 1 second.

✓ ACF messages from Gatekeeper is measured.

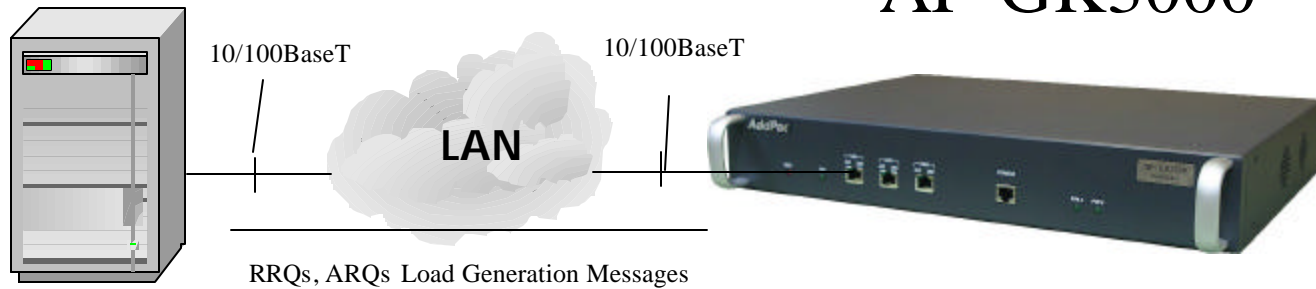
# Gkburst – Test Environment

Linux PC

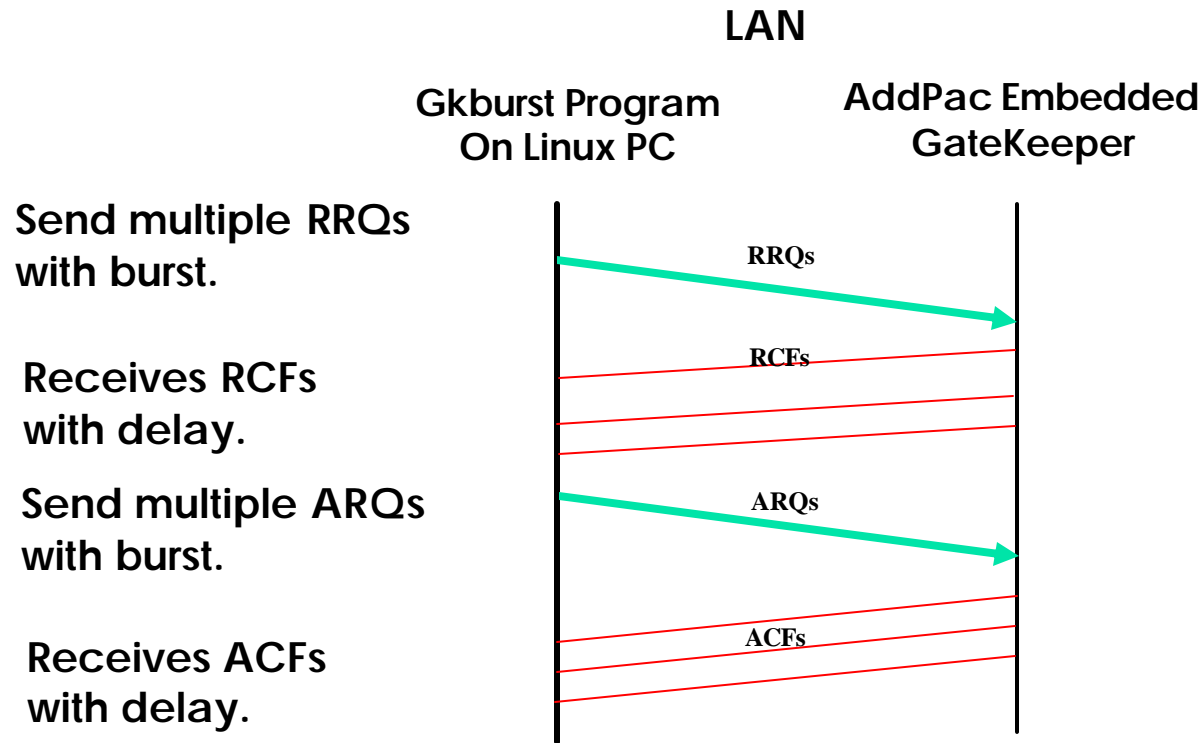
AP-GK1000

AP-GK2000

AP-GK3000



# Gkburst – Test Scenario





# Gkburst – Test Result

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## GK1000

- ✓ Send 200 RRQs and 200 ARQs
- ✓ 10 RRQ/sec
- ✓ 10 ARQ/sec

## GK2000

- ✓ Send 1000 RRQs and 1000 ARQs
- ✓ 83 RRQ/sec
- ✓ 83 ARQ/sec

## GK3000

- ✓ Send 1000 RRQs and 1000 ARQs
- ✓ 166 RRQ/sec
- ✓ 166 ARQ/sec



# Performance Tool - Gkgen.

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- ❑ This program measures maximum number of endpoints and maximum concurrent calls which can be supported by a gatekeeper.
- ❑ Single Gkgen process can register 1000 endpoints with 2000 aliases.
- ❑ After register endpoints, single Gkgen process generate 1000 ARQs and DRQs periodically.
- ❑ To measure more than 1000 endpoints performance, multiple Gkgen process can be running on a Linux station or multiple Linux stations.





# Gkgen - Usage

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❑ % **gkgen -gk 172.16.1.10 -n 1000 -b 1000 -arq- 2  
-ttl 120**

- ✓ **-gk : gatekeeper IP address**
- ✓ **-n : number of endpoints and calls to generate**
- ✓ **-b : base number for distinguishing multiple  
Gkgen processes**
- ✓ **-ttl : Time to live timer value.**
- ✓ **-arq- : number of TTL period per one call**

# Gkgen - Test Scenario

Gkgen Program  
On Linux PC

AddPac Embedded  
GateKeeper

## Phase 1 : Registration phase

Sends N RRQs and  
receives N RCFs.

RRQ

RCF

## Phase 2 : Call generation periodically with periodic TTL registration.

Sends N ARQs and  
DRQs with RRQs.

RRQ

RCF

ARQ

ACF

RRQ

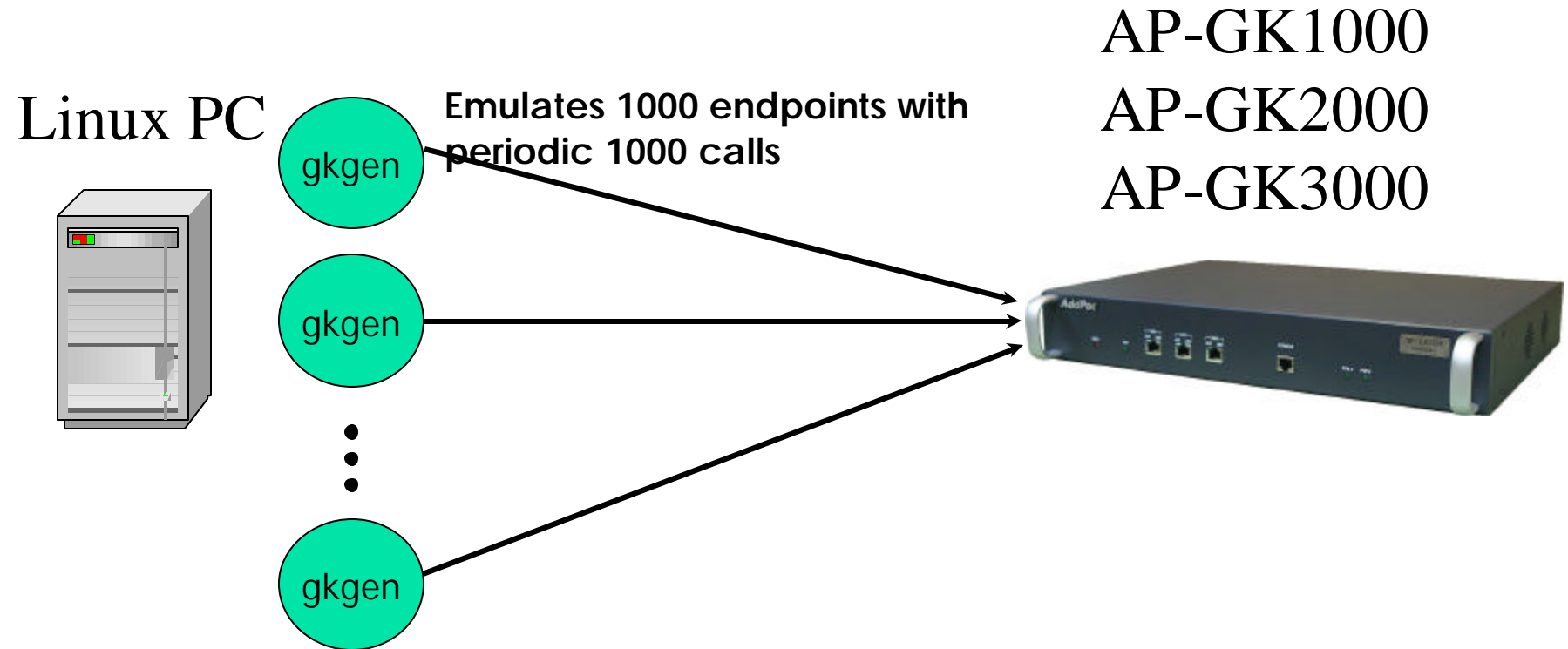
RCF

DRQ

DCF

...

# Gkgen - Test Configuration





# Gkgen – Test Result

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- Condition : TTL = 60 sec, Call period is 120 sec**
- GK1000**
  - GK CPU load : Max 80%
  - 200 endpoints, 400 aliases, 200 concurrent calls
- GK2000**
  - GK CPU load : Max 80%
  - 1500 endpoints, 3000 aliases, 1500 concurrent calls
- GK3000**
  - GK CPU load : Max 100%
  - 5000 endpoints, 10000 aliases, 5000 concurrent calls



# Discussion

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