

Life saver - Resource Governor for Applications & Reporting

Gothenburg – Sweden

Dr. SubraMani Paramasivam



18/08/2015



Sponsors



PLURALSIGHT



About me



Dr. SubraMANI Paramasivam
PhD., MCT, MCITP, MCP, MCSA
CEO, Principal Consultant & Trainer @ DAGEOP (UK)
Email: mani@dageop.com



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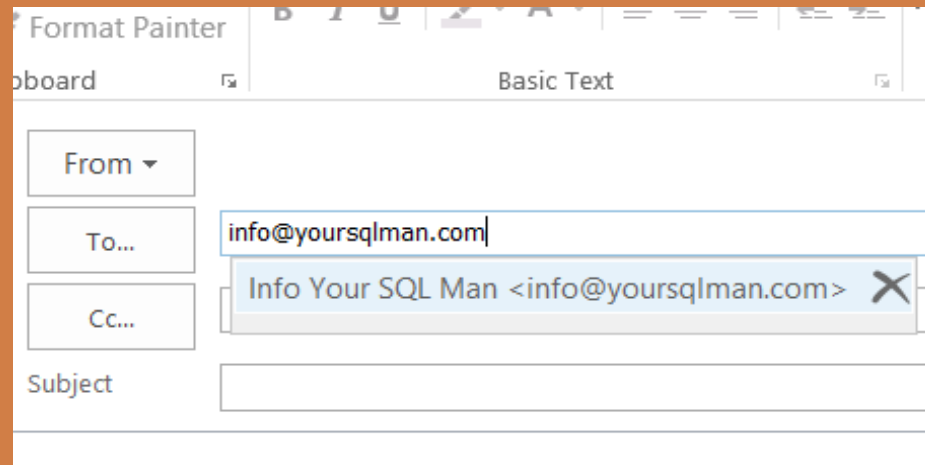


More Information

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Information



Duration

- 60 minutes



You Know Where It Is



Please silence your phones & other devices



Any questions?

QUESTIONS

Memory

Applications / Databases

CPU

Driving

I/O

Resource Governor

Objectives

On completion of this session, attendees will be able to better understand & have knowledge in

Memory, CPU,
I/O

Resource
Consumption



Resource
Governor

Clear Lanes &
Discipline

Workloads

Understanding
Applications &
Priorities



Segregation of
Users / Service
Accounts



Contents

INTRODUCTION	Architecture	Performance matters	Lane Discipline & Resource Governor
Quick info about Resource Governor	Dangerous driving	Measures & Disaster Recovery	Congestion / No Congestion
Settings & Config	Simple Steps	DEMOS	Q & A

INTRODUCTION

Applications



Database



Reporting





Architecture



Performance



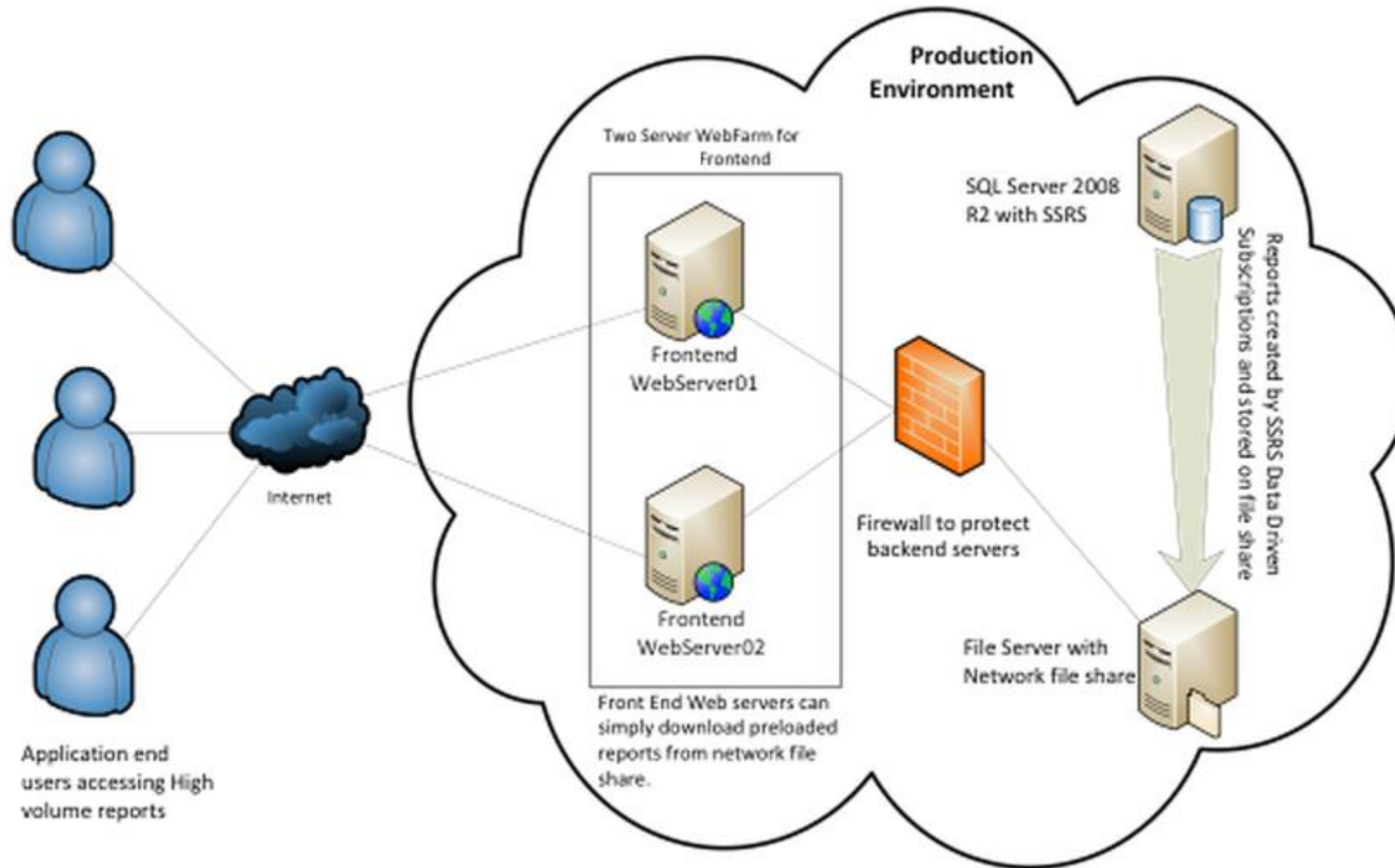
Purpose



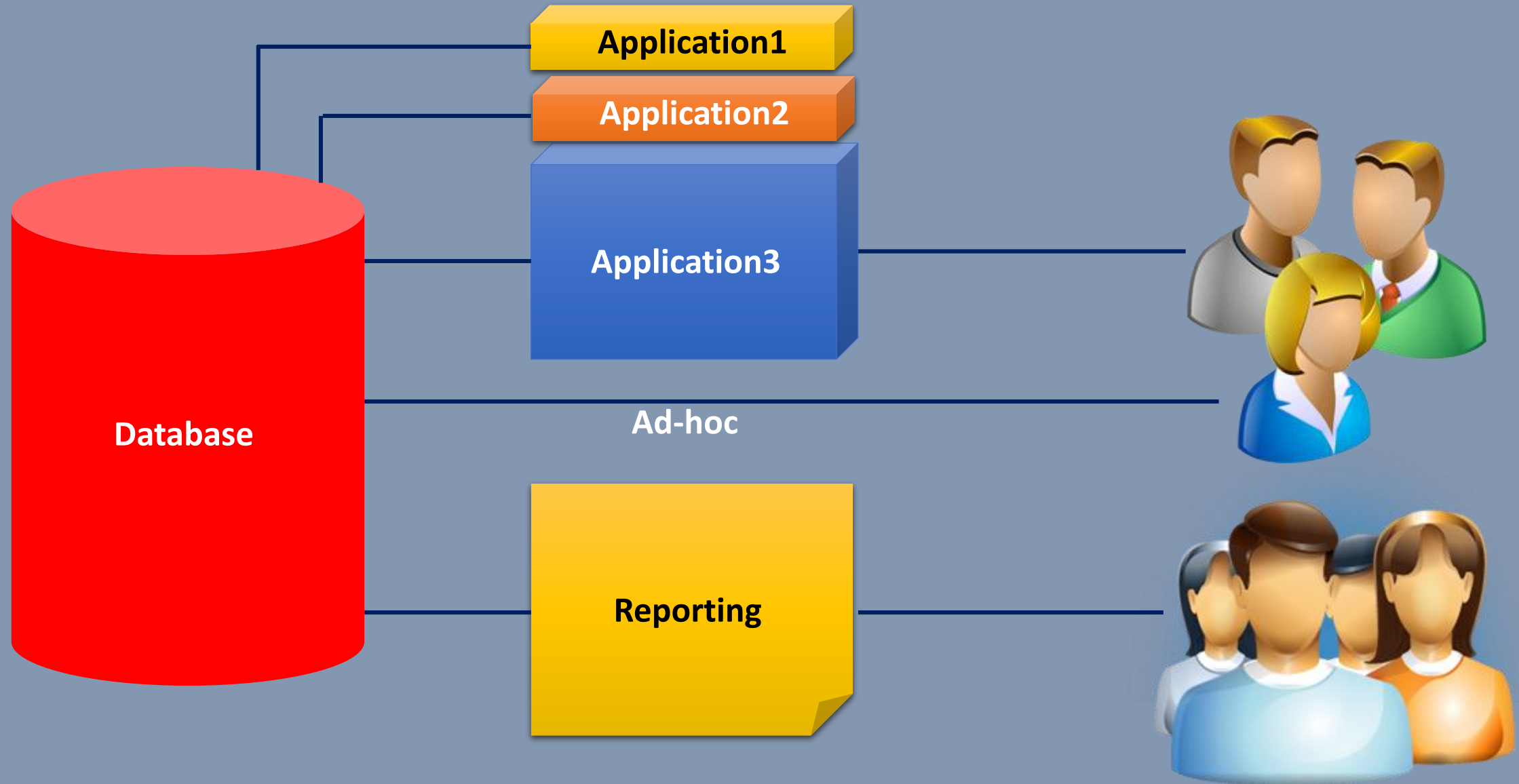
Better architecture



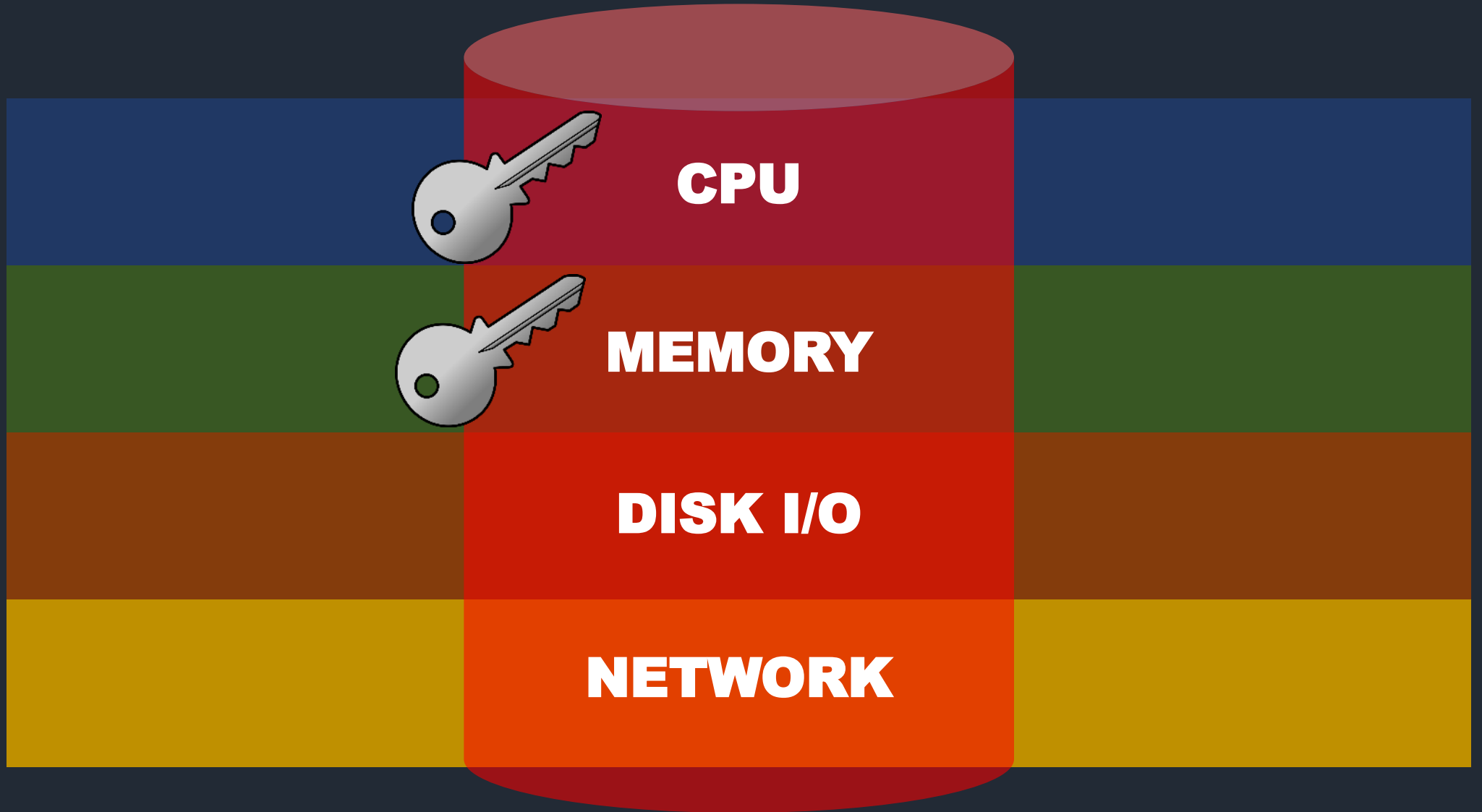
Better architecture



Typical example of poor architecture



PERFORMANCE MATTERS





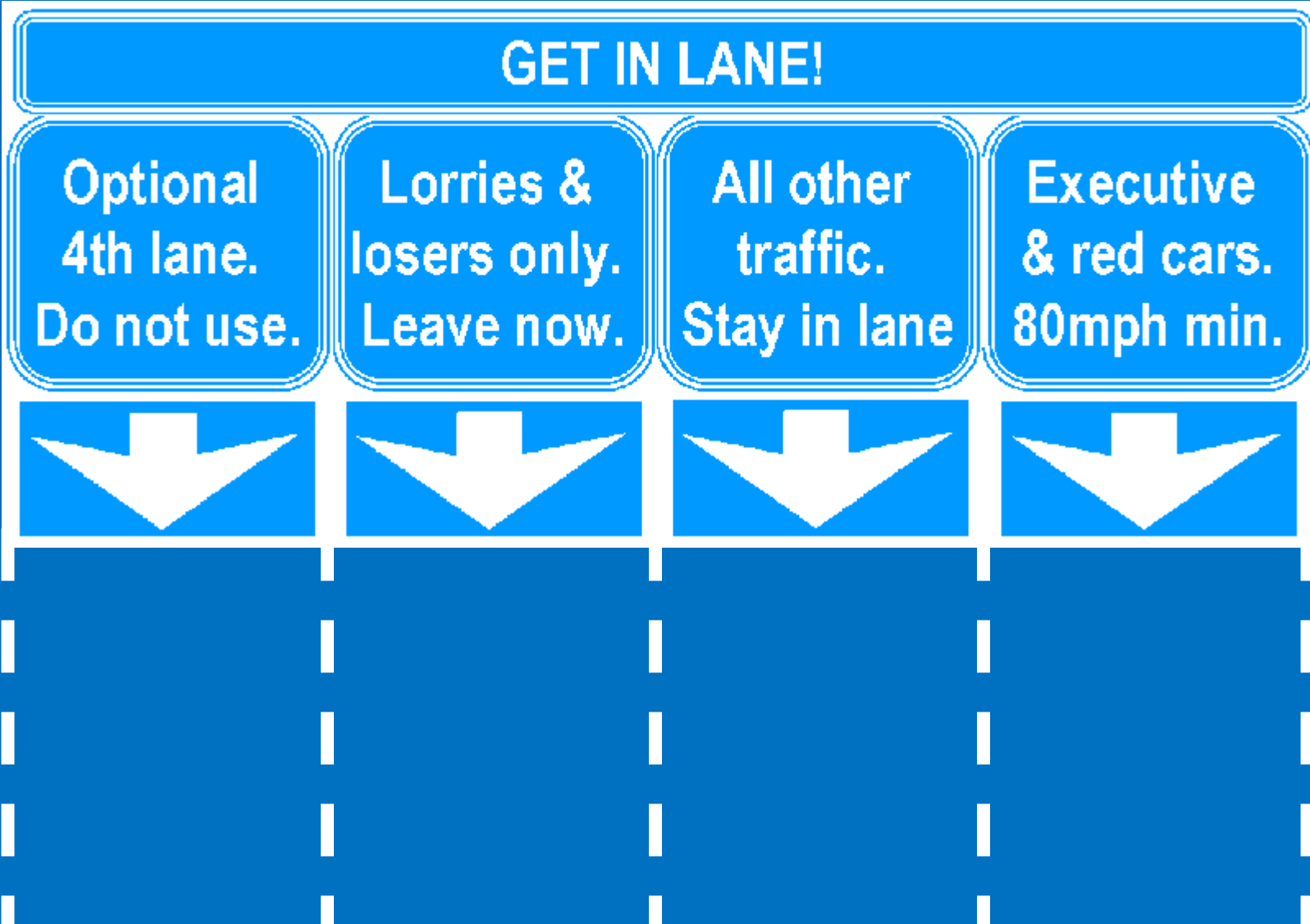
Example of how your performance can slow down in a high end servers because of the unexpected nonsense attitudes.



Lane Discipline



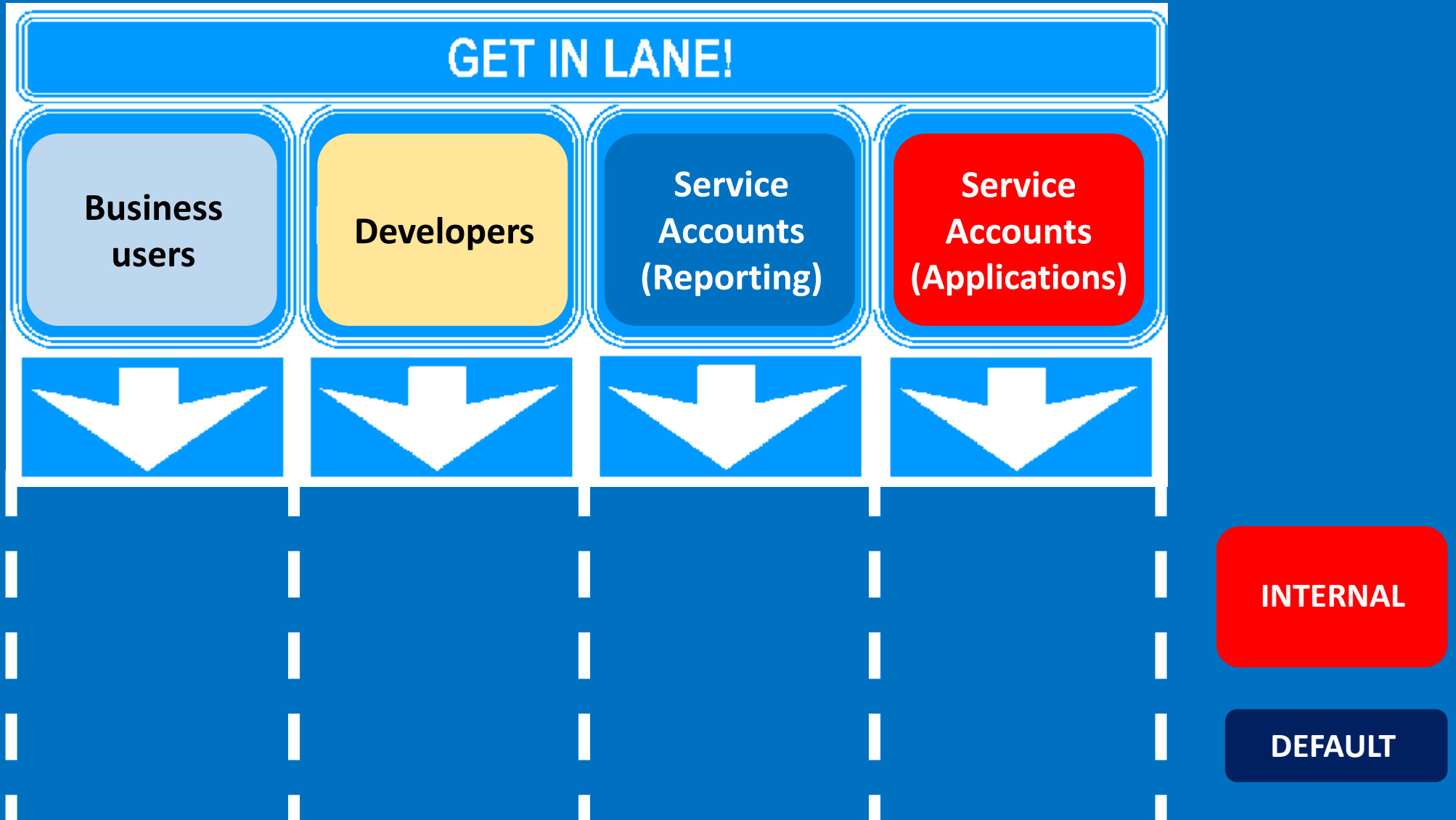
Organize Lane Discipline



Ambulance /
Fire Engine

POLICE / GOV

Organize Users/Accounts with Resource Governor



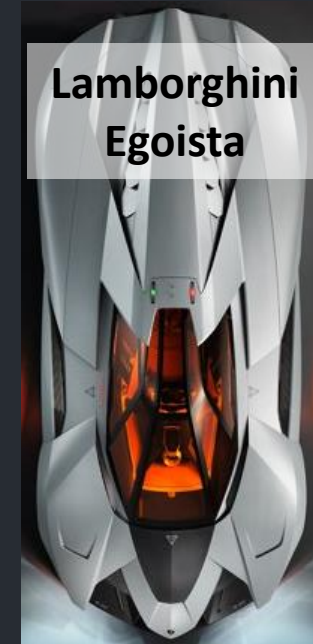
GET IN LANE!

**Business
users**

Developers

**Service
Accounts
(Reporting)**

**Service
Accounts
(Applications)**



**Lamborghini
Egoista**

INTERNAL

DEFAULT

ServiceAct_App1

ServiceAct_Rep1

Developer1

Developer2

Developer3

Developer4

BusinessUser1

BusinessUser2

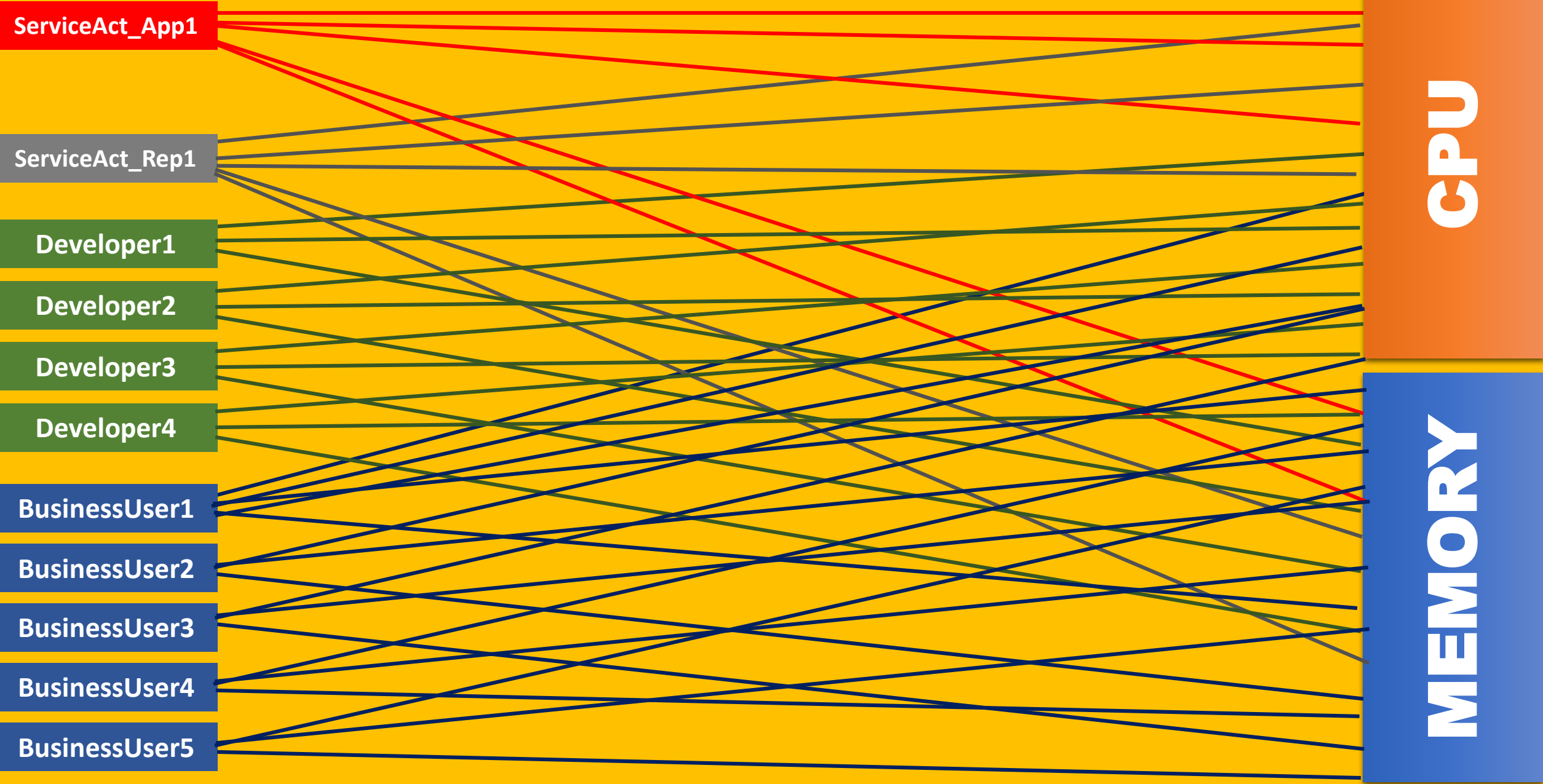
BusinessUser3

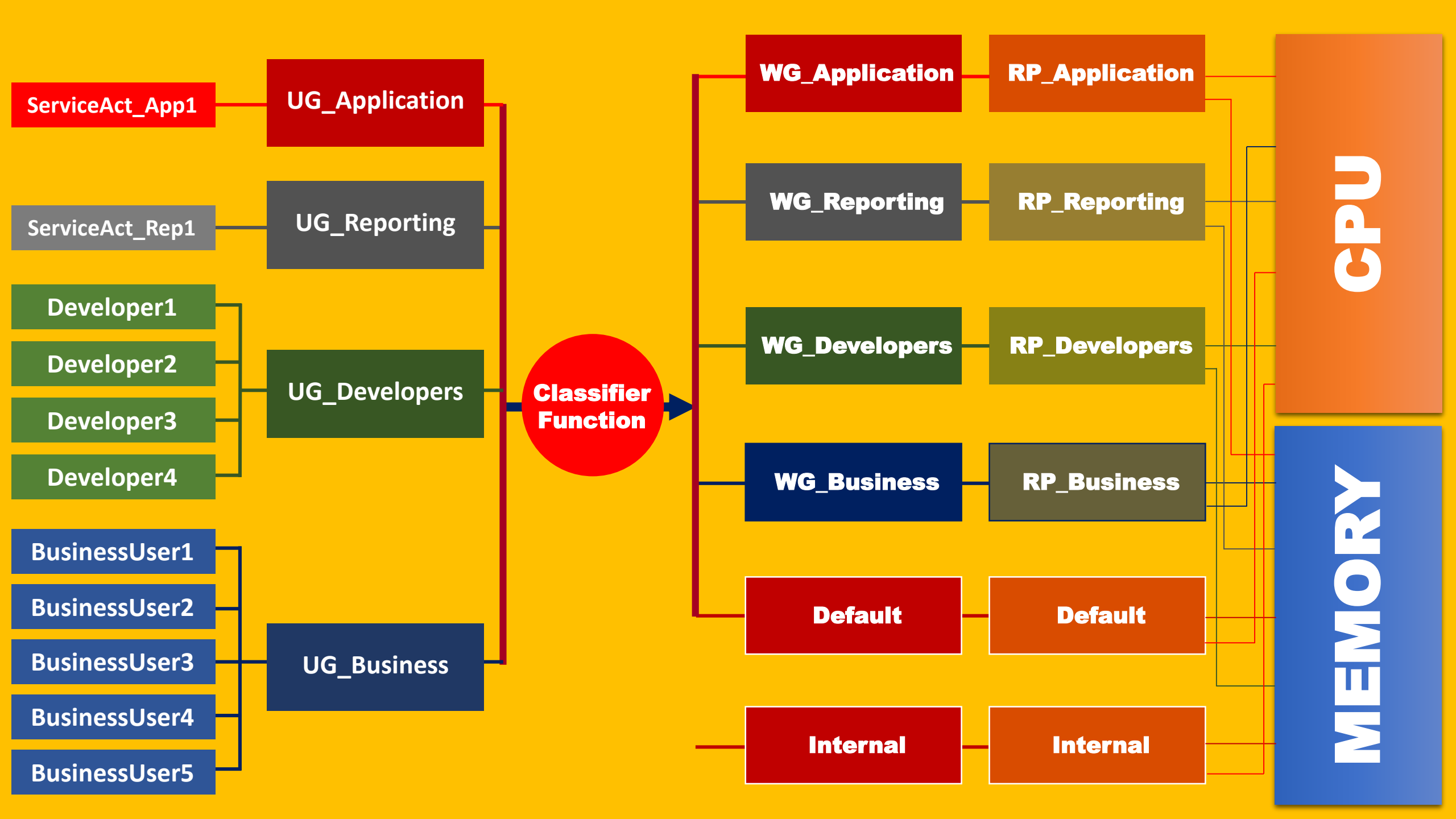
BusinessUser4

BusinessUser5

CPU

MEMORY





Quick information - Resource Governor

- Introduced in 2008
- Available in Enterprise, Developer & Evaluation Editions
- Ability to classify connections and route the workload to specific lanes
- Limited to SQL Server Engine only
- Self contained and instance specific
- Applies to CPU & Memory consumption only
- 3 main concepts
 - Resource Pool
 - Represents physical resource
 - Workload Group
 - Categorizes the sessions and routes to relevant resource pool
 - Classification
 - A function to decide the sessions to allocate the relevant group

Quick information - Resource Governor

SYSTEM VIEWS

- `sys.resource_governor_configuration`
- `sys.resource_governor_resource_pools`
- `sys.resource_governor_workload_groups`

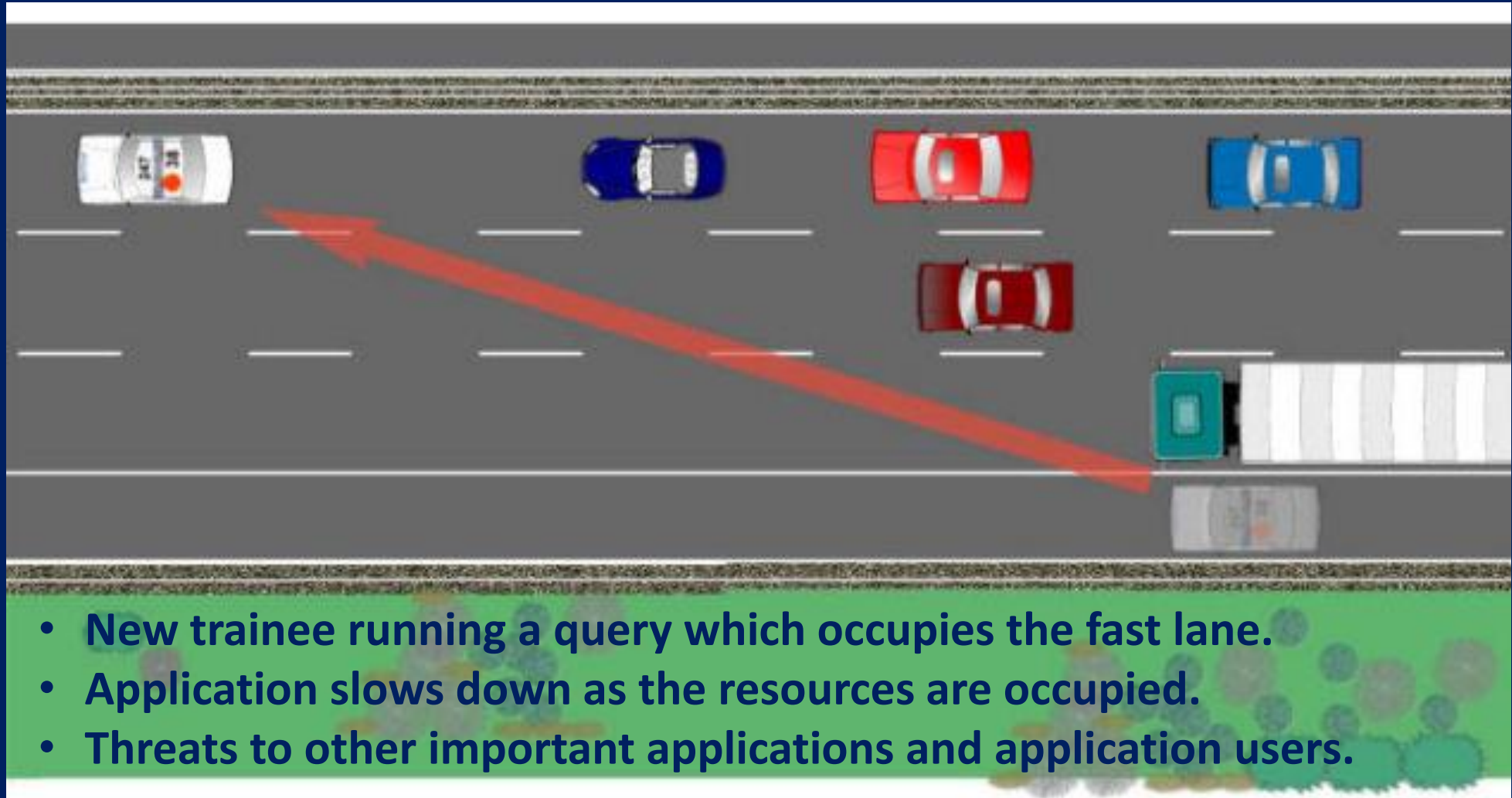
DMV

- `sys.dm_resource_governor_workload_groups`
- `sys.dm_resource_governor_resource_pools`
- `sys.dm_resource_governor_configuration`

PERFORMANCE COUNTERS

- `SQLServer:Workload Group Stats`
- `SQLServer:Resource Pool Stats`

Typical scenario – Dangerous driving





Proactive measures



Reactive measures



Recovery by DBA



Recovery by Developers/Users

Disaster Recovery



DBA's/System Administrators fight against all disasters after the incident has happened. Responsibility of proactive measures is not only the responsibility of the DBA but also the business users.



Congestion / No congestion



An example of how a SQL Server should not run.

- No Activities

RESULT: Very expensive project but not used

- Too much of activities

RESULT: Server hang because of too much of congestion on databases by every single session produced by users/applications.



Resource Governor - Default Settings

Ready

Select a page

General

ScriptHelp

Classifier function name

None

☒ Enable Resource Governor

Resource pools

	Name	Minimum CPU %	Maximum CPU %	Minimum Memory %	Maximum Memory %
▸	default	0	100	0	100
	internal	0	100	0	100
*					

Workload groups for resource pool:

	Name	Importance	Maximum Requests	CPU Time (sec)	Memor...	Grant Time-out (sec)	Degree of Parallelism
▸	default	Medium	0	0	25	0	0
*							

Connection

MANISURFACE

[View connection properties](#)

Progress

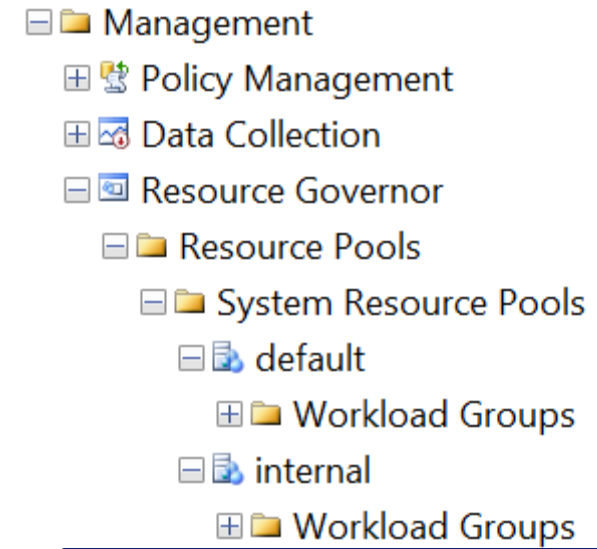
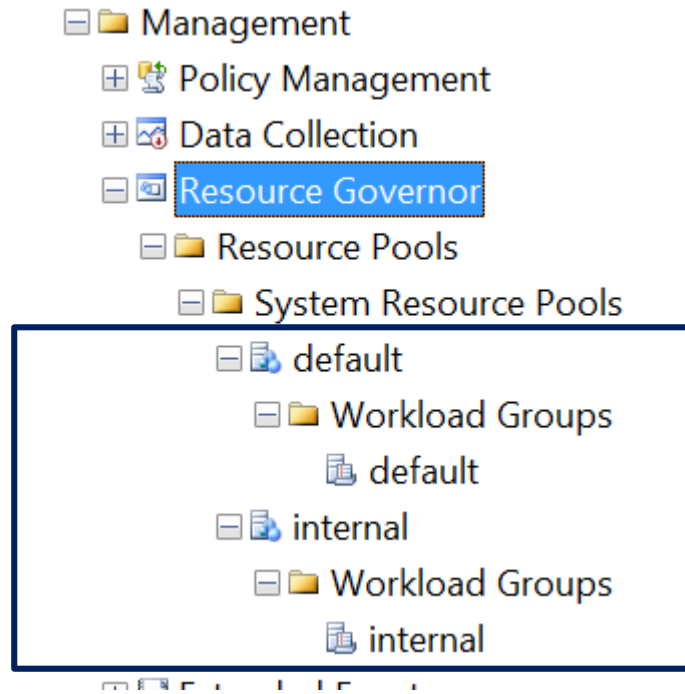
Ready

OK

Cancel

Help

Before and After Config



Extended Events

A bad example of how a SQL Server should not run.

One instance creates issues on other instances on the same server.



AM I A RESOURCE GOVERNOR?

YES

**Manage server resource activities and
prioritize to give HIGH/MEDIUM/LOW
performance on the requested processes
categorized by Users/Service
Accounts/Applications/Databases**

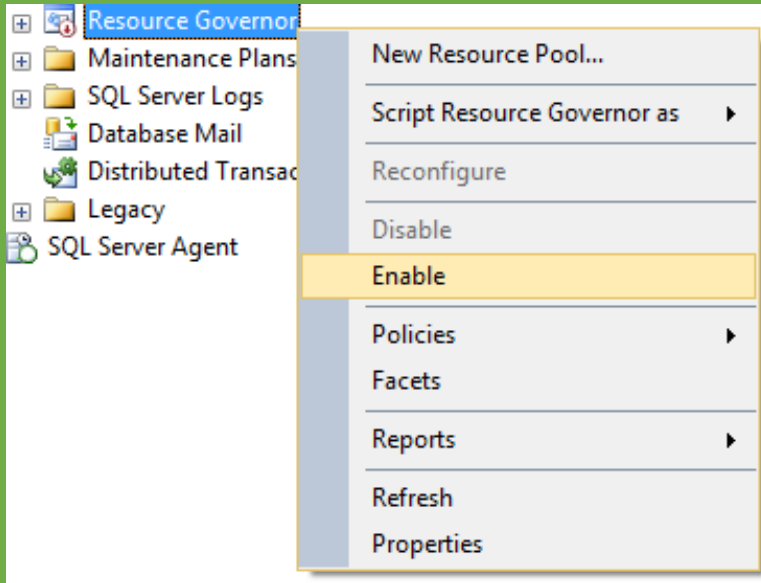
NO

**I will not control the Disk I/O and network
activities.**

**But started supporting Disk I/O from SQL
Server 2014 onwards.**

Simple Steps to enable/disable RG

- Expand Management
- Right click on Resource Governor and choose Enable



**ALTER RESOURCE GOVERNOR RECONFIGURE;
GO**

**ALTER RESOURCE GOVERNOR DISABLE;
GO**

DEMO

Happy Days





Q & A



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THANK

YOU

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