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Tuning Infrastructure for Server Virtualization Experiment Protocol

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0. What do I do?

1. Performability Analysis through measurements

   - produce recommendations on how to use virtualized network services with high availability and performance similar (or little better) to native environments.

1. Problems

1. Software Hang
   - Phenomenon of unresponsiveness

2010 IEEE/IFIP International Conference on Dependable Systems & Networks (DSN)

Why Software Hangs and What Can Be Done With It *

Xiang Song, Haibo Chen and Binyu Zang

Parallel Processing Institute, Fudan University
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38.8%

Reason	#Bugs	Percentage
Configuration	13	5.58%
Design	37	15.88%
Environment	39	16.74%
Infinite Loop	32	13.7%
Inefficient Algorithm	14	6.01%
Concurrency	54	23.2%
User Operation Error	20	8.58%
Plug In	12	5.15%
Others	12	5.15%
Total	233	100%

1. Problems

2. Time between experiment iterations
   - > 30 minutes (high level of required tunings)

Possibility to tackle such problems:

- Automation: TISVEP - Tuning Infrastructure for Server Virtualization Experiment Protocol

2. Automation Monitoring Insight

Centro de Informática U·F·P·E

TOPICS IN DESIGN AND IMPLEMENTATION

Toward an Architecture for Monitoring Private Clouds

Shirlei Aparecida de Chaves, Rafael Brundo Uriarte, Carlos Becker Westphall
Post Graduation Program in Computer Science (PPGCC — UFSC)
Federal University of Santa Catarina
Florianópolis, Santa Catarina, Braz

the monitoring system. Examples of this data are processor load and memory usage.

Configuration Generator: Retrieves information from the database, for example, to generate the necessary configuration files for visualization tools being used in the view layer.

Monitoring Tool Server: This module is responsible for receiving monitoring data from different resources (e.g., the VM Monitor). The current version it is not fully developed and some shortcuts were taken to pass some moni-

of plug-ins). In addition, Eucalyptus provides a simple Nagios script for basic monitoring of Eucalyptus components.

3. TISVEP

1. Main Objectives:
   - minimize software hang occurrences
     - Studied service:
       - web cache server cluster

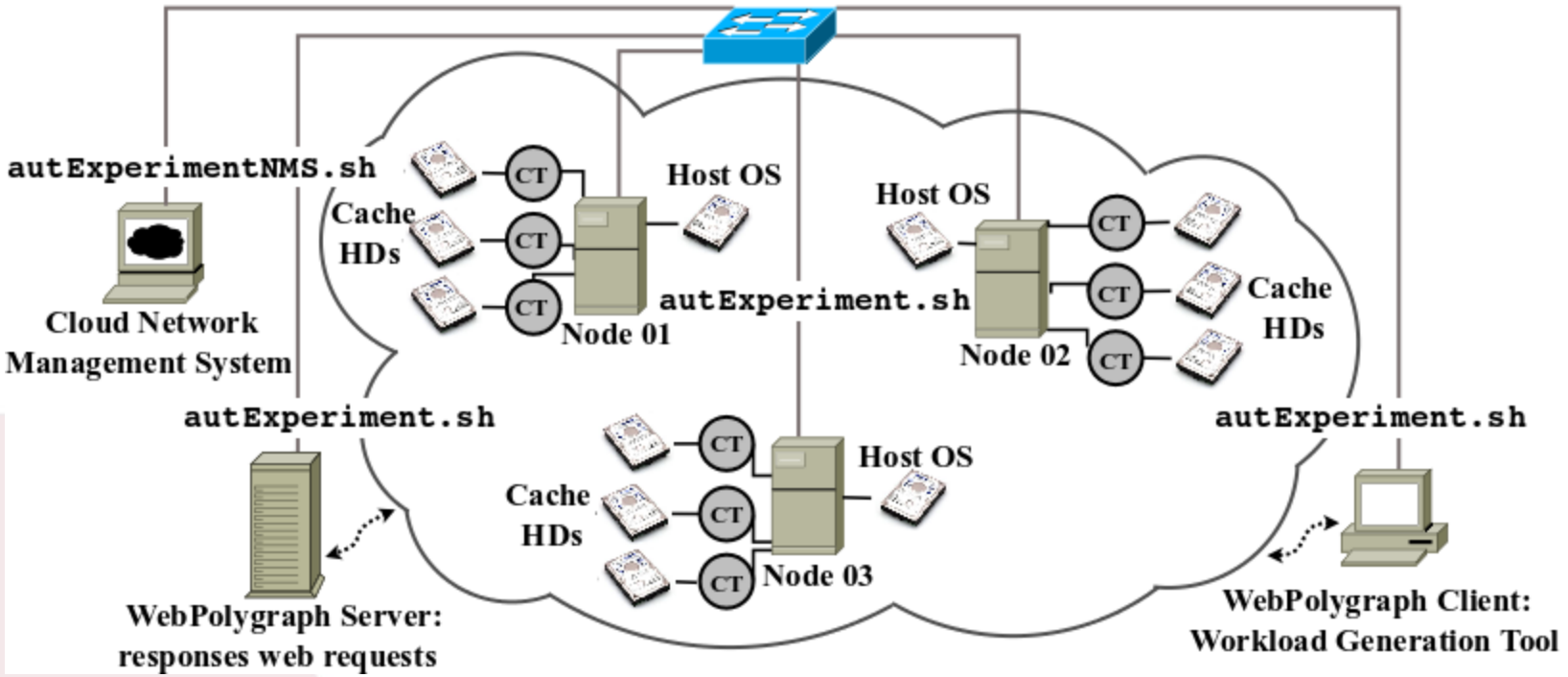
   - reduce configuration time intervals between experiment iterations
     - Without automation: 30-40 minutes
     - *Experiments objectives*: provide data for performability analysis of studied service

3. TISVEP

2. Features
   - Lightweight
     - use Bash language and netpipes for network communication
   - Extensible:
     - ability to have introduce new functionalities
       - quite common on conducted virtualized experiments

4. Testbed Infrastructure

Lab: C025

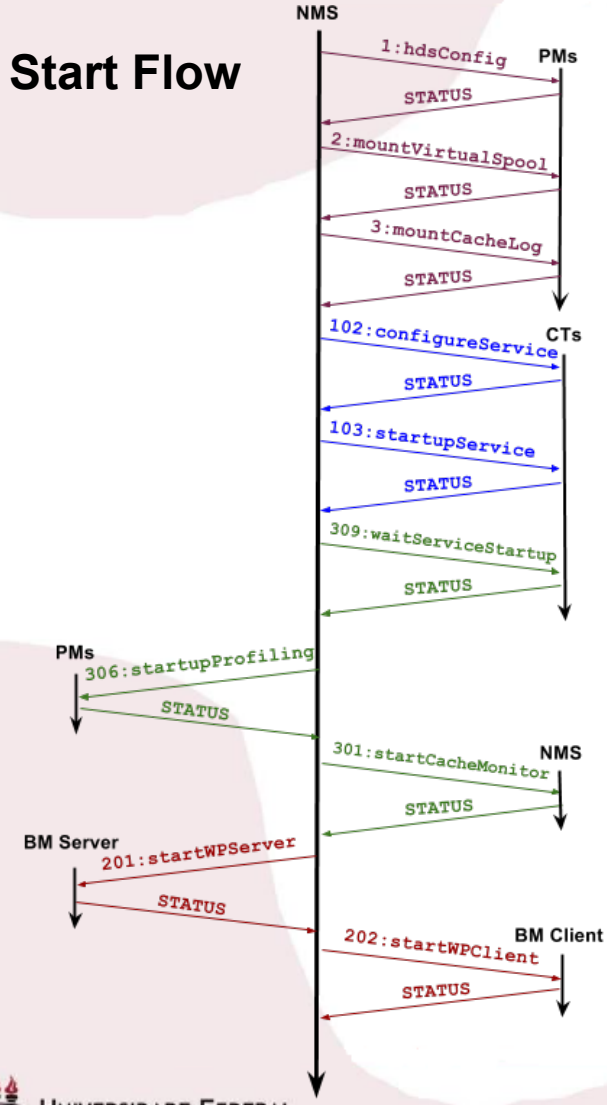


Container-based virtualization: OpenVZ

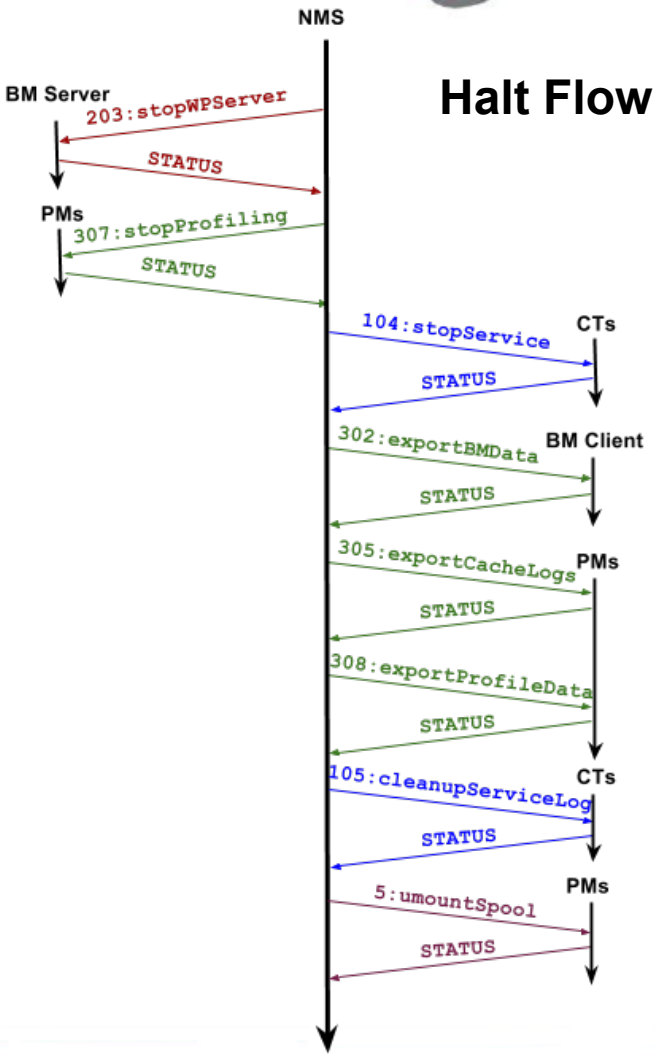
DAS - Directed-Attached Storage

5. TISVEP Iterations Flows

Start Flow



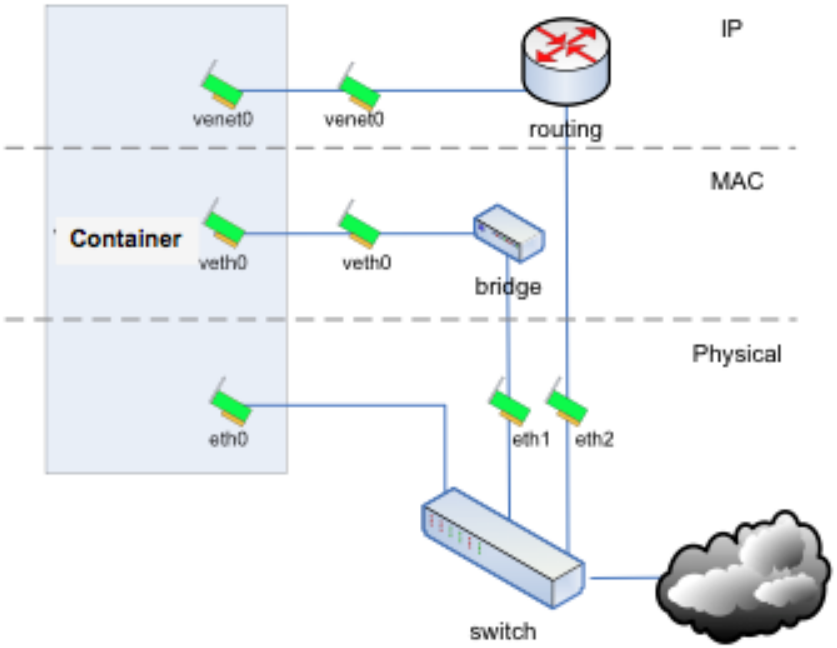
Halt Flow



6. Experiments

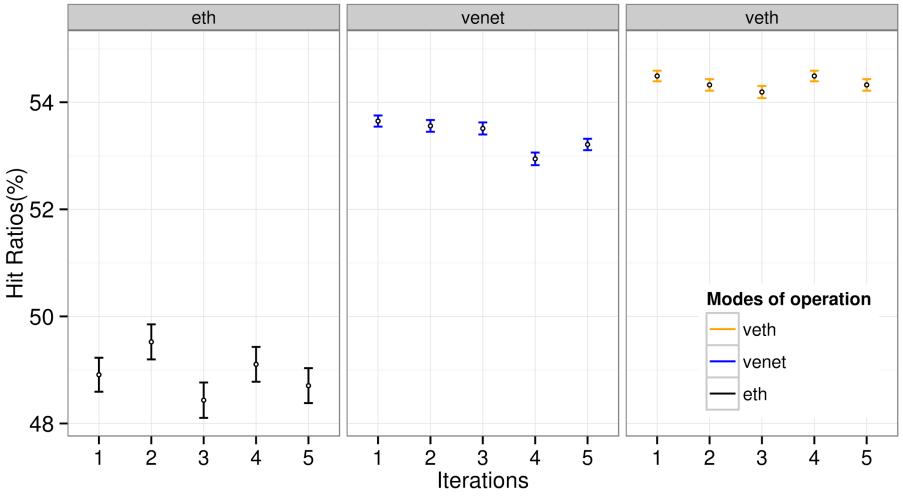
1/3 - OpenVZ network modes of operation

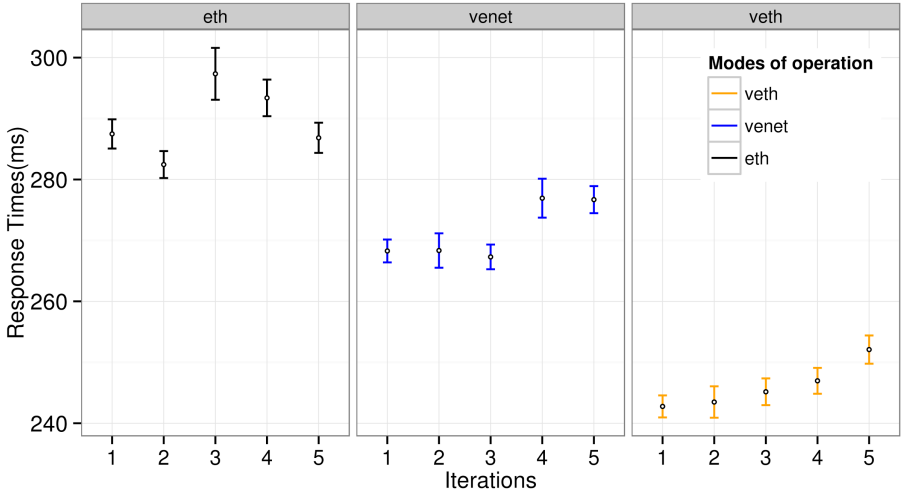
- 15 iterations: 3 per mode



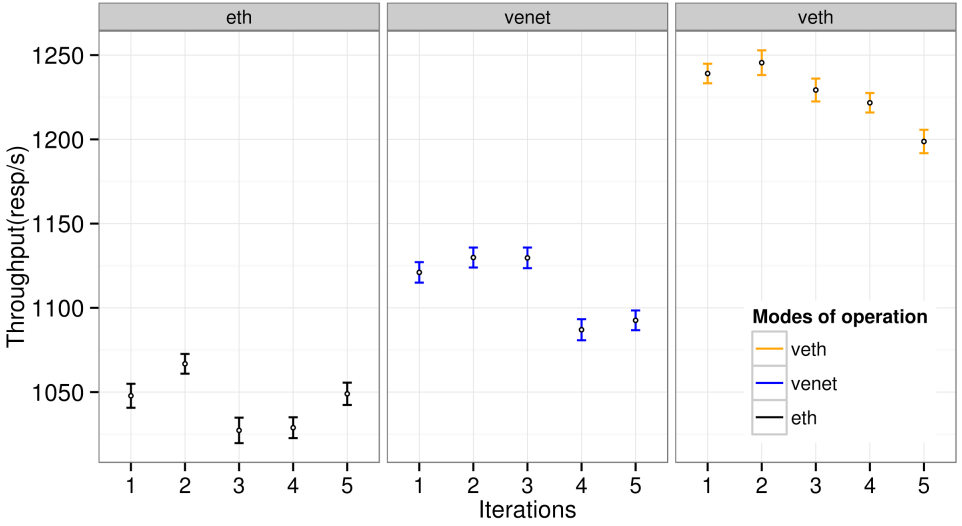
6. Experiments

1/3 - OpenVZ network modes of operation





Scenario:
-3CTs on 1 PM
-2 GB per HD
A=100%

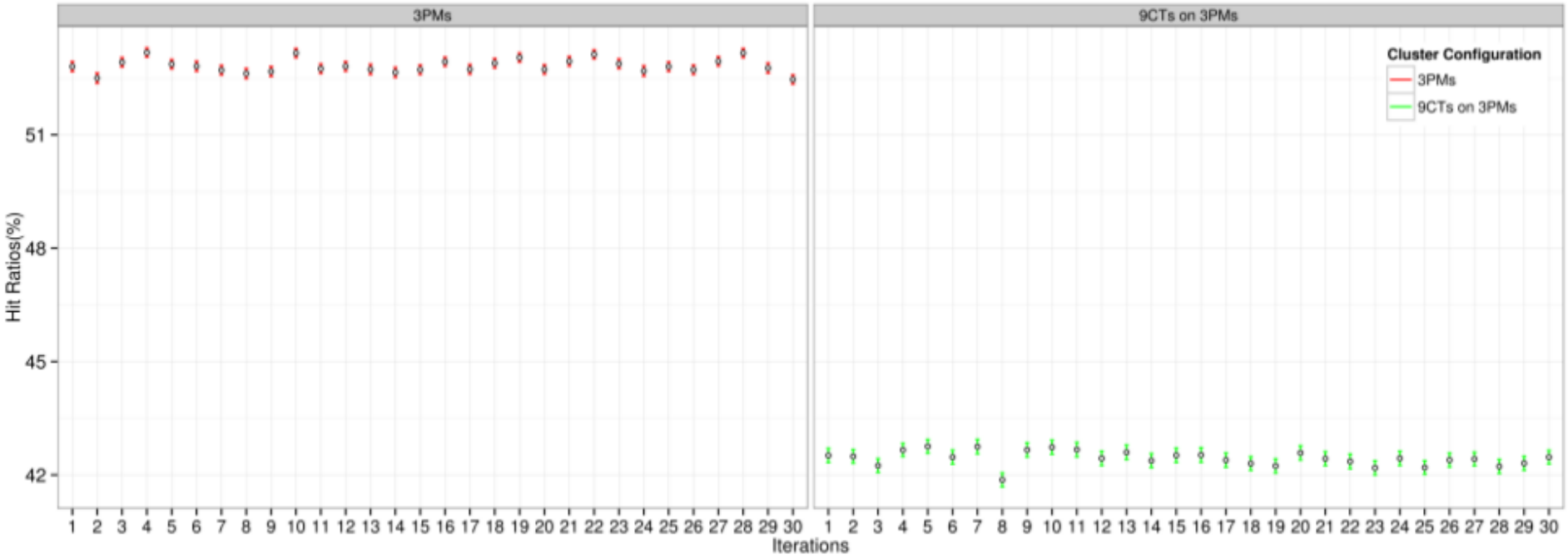


Supported by ggplot

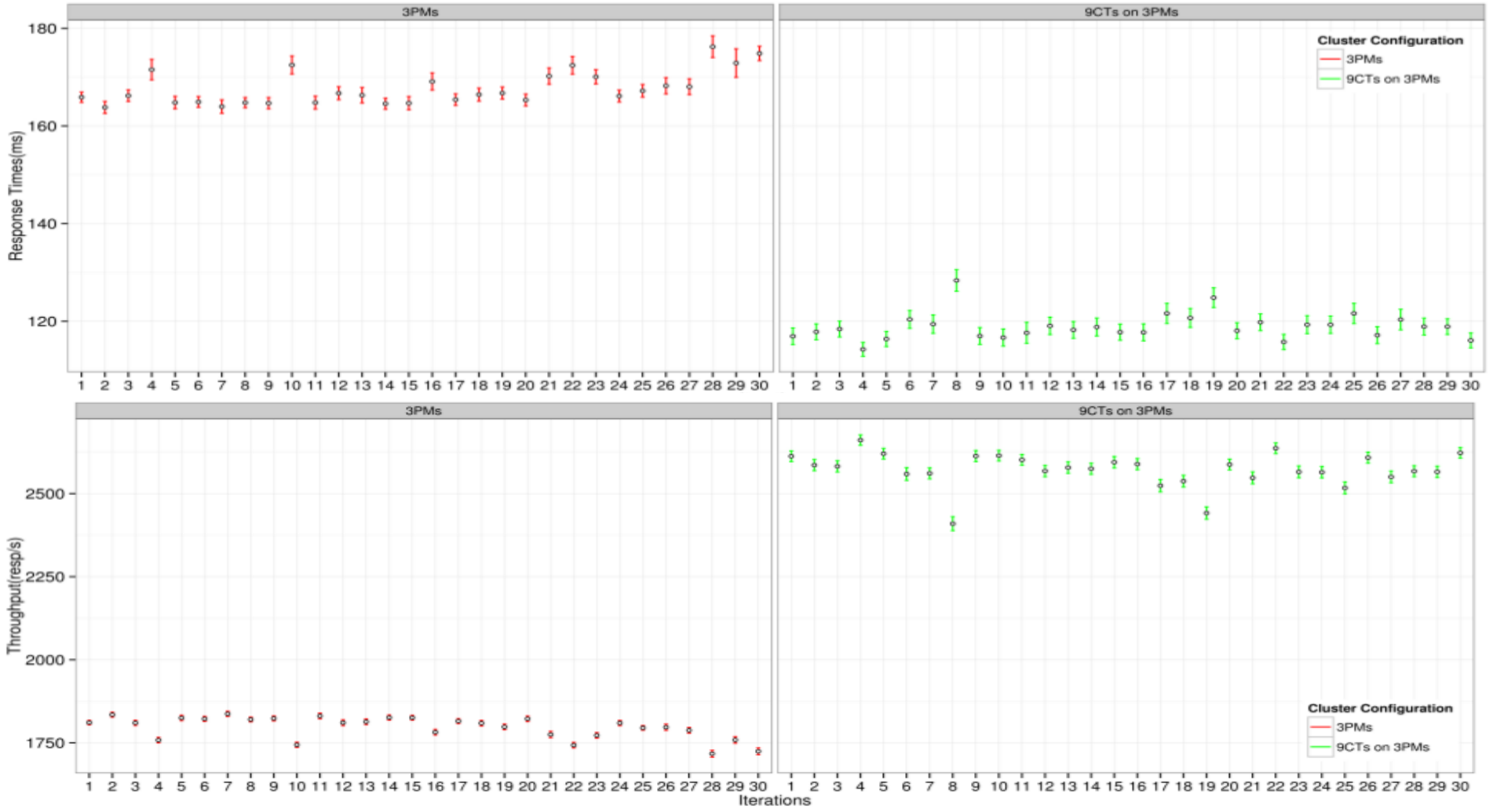
6. Experiments

2/3 - 3 PMs(baseline) x 9CTs on 3 PMs

- Server consolidation
- 60 iterations of 30 minutes (A=100%)

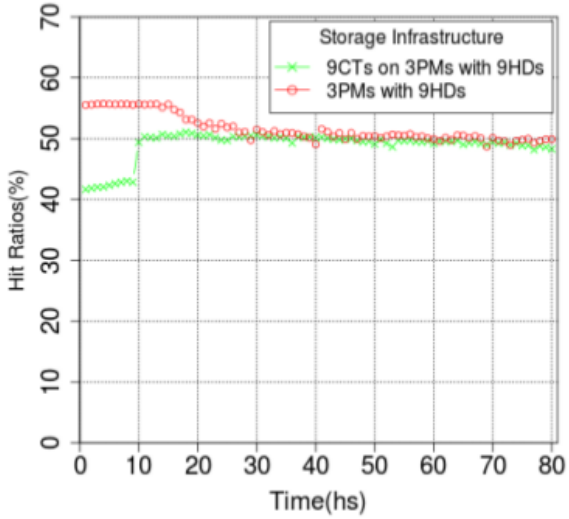


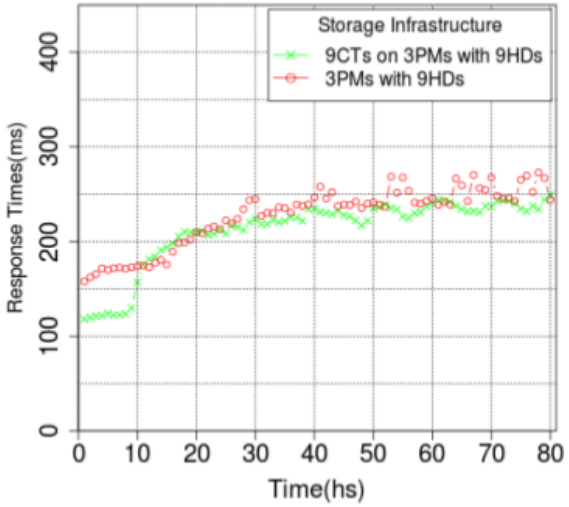
6. Experiments

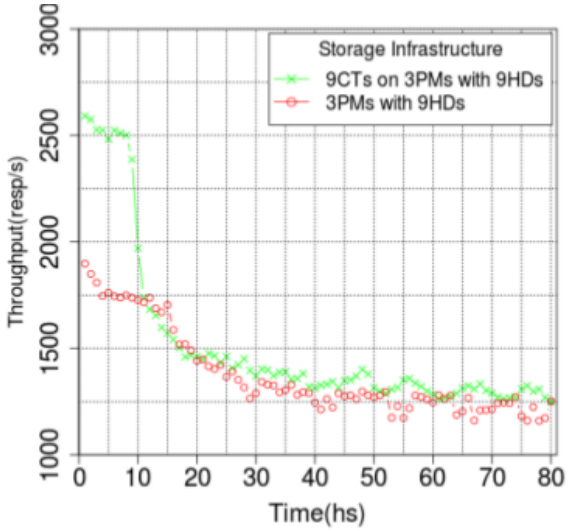


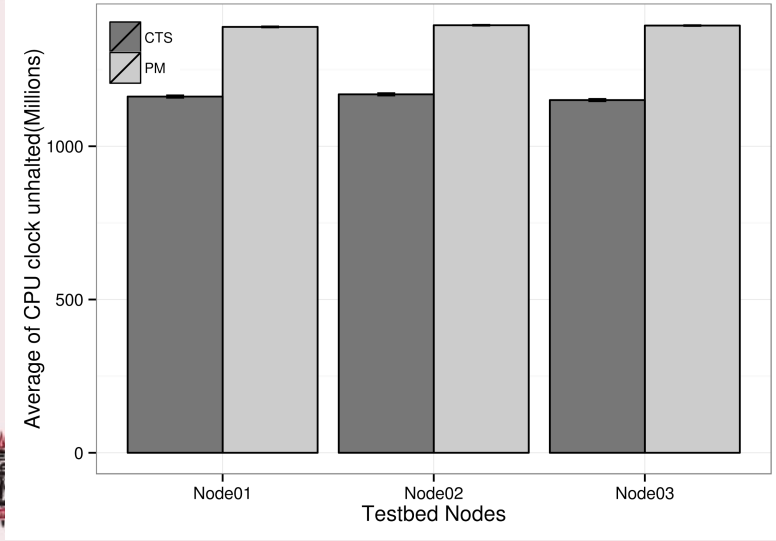
6. Experiments

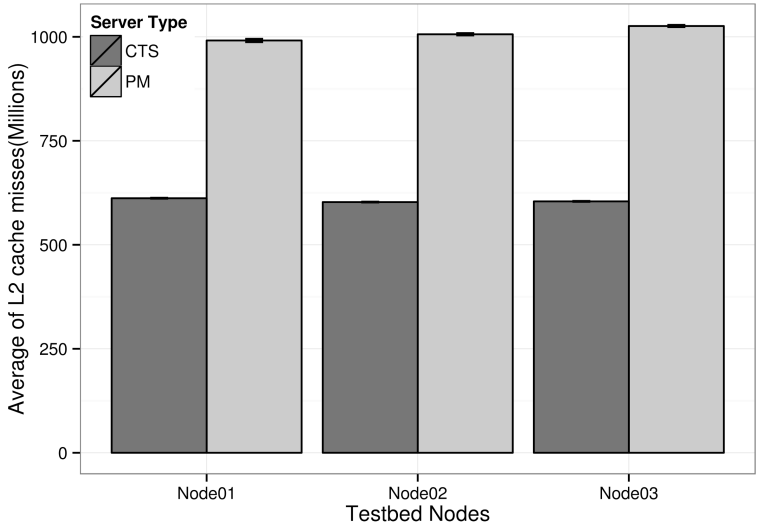
3/3 - 900GB of cache: 3 PMs x 9CTs on 3 PMs





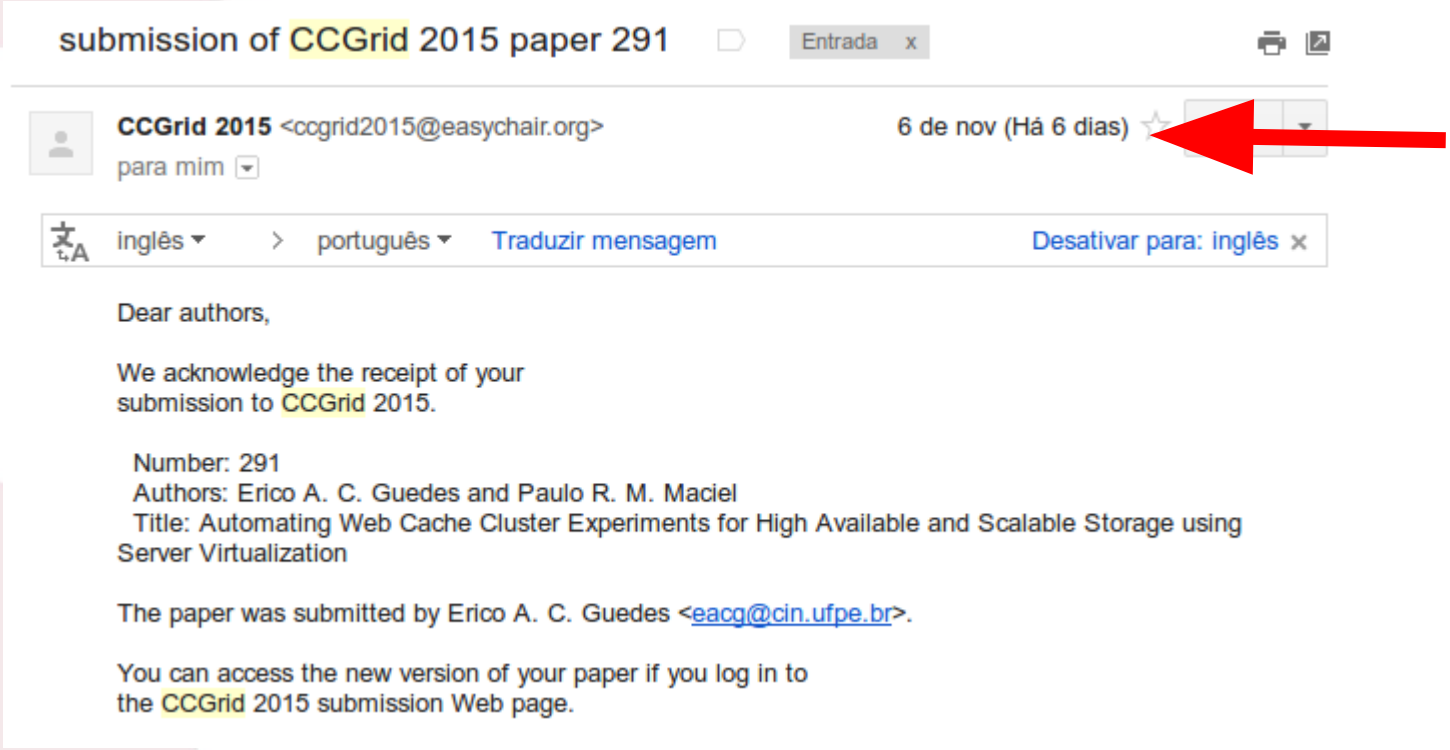






Conclusions

TISVEP: CCGrid 2015



submission of CCGrid 2015 paper 291 Entrada x

CCGrid 2015 <ccgrid2015@easychair.org> 6 de nov (Há 6 dias)

para mim

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Dear authors,

We acknowledge the receipt of your submission to CCGrid 2015.

Number: 291
Authors: Erico A. C. Guedes and Paulo R. M. Maciel
Title: Automating Web Cache Cluster Experiments for High Available and Scalable Storage using Server Virtualization

The paper was submitted by Erico A. C. Guedes <eacg@cin.ufpe.br>.

You can access the new version of your paper if you log in to the CCGrid 2015 submission Web page.

Future Work: **150GB per HD**

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