2nd Asia Tier Center Forum
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Suranaree University of Technology (SUT)
Nakhon Ratchasima, Thailand

PK-CIIT

Grid Operations in Pakistan

COMSATS

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Outline

- Brief Overview of COMSATS Institute of IT
- COMSATS Cluster Evolution
- COMSATS Site Current Status
- COMSATS New Site Status
- IPv6 and PERN Bandwidth
- Summary and Conclusion

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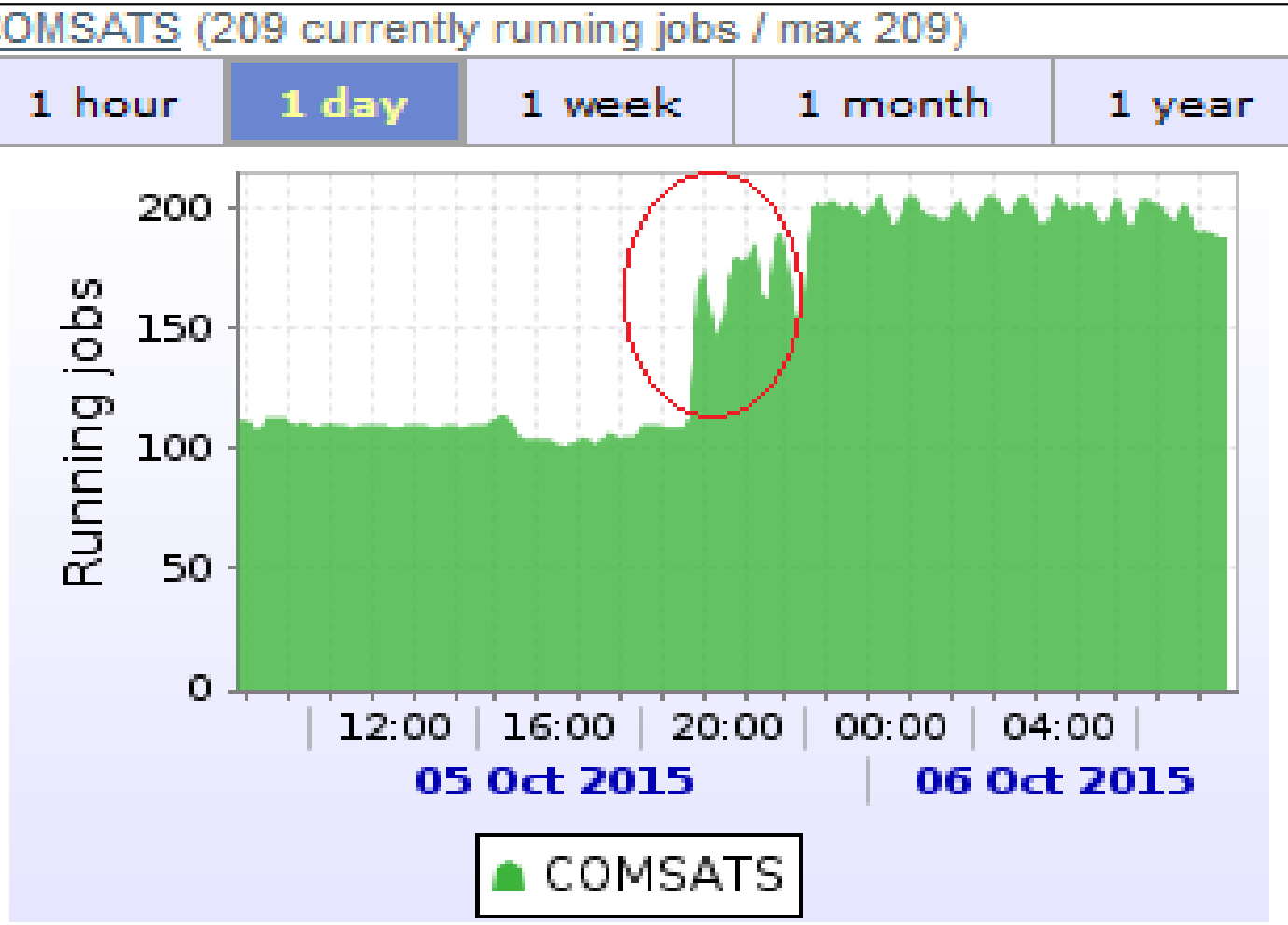
COMSATS	2016
Campuses	8
Research Centers	8
Student Enrolment	37,570
Faculty Strength (Approx.)	3000
Academic Programs	90
Ranking	Rank No. 1 IT institute of Pakistan 3th in Pak, International Publications 4th in Overall Pak Ranking

COMSATS Cluster Evolution

Year	Events
2009	**Desktop** Computer as a VOBOX
2010	**Dell Server** as a VOBOX
2011	**Procurement** of HPC **equipment**
2012	Cluster building, **Successfully AL**
2013	**Memory** upgradation
2014	**Bandwidth** upgradation from 24 Two more **Servers** were added i
2015	Six **Server** were added in existing
2016	Development of **Data Center**



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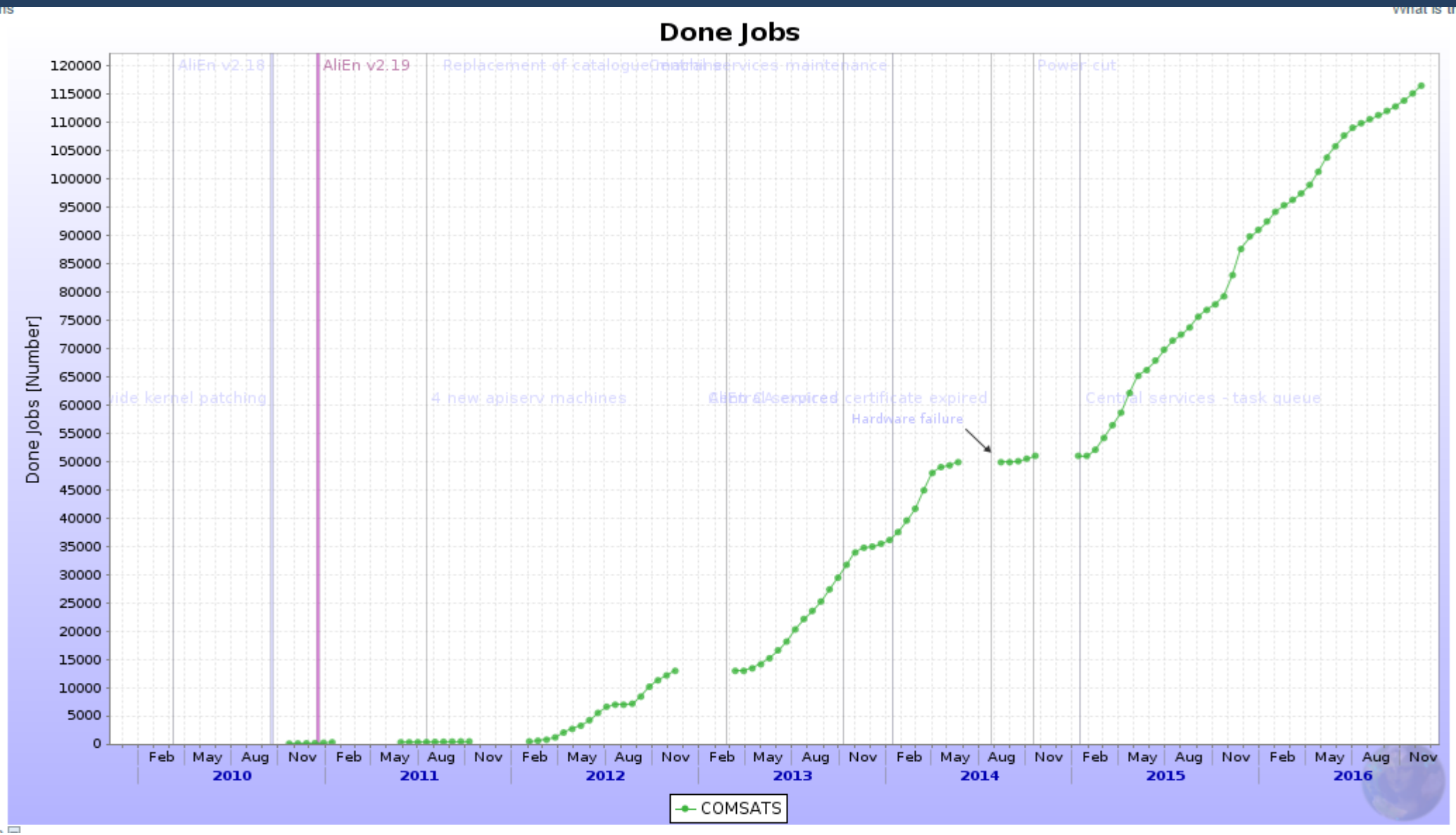
Current Status of Site

Equipment		RAM, Processor, HDD
Servers (SL6, EMI-3)	VOBOX	16 GB, Dual Quad Core, 1TB
	SBDII	16 GB, Dual Quad Core, 1TB
	CREAM	16 GB, Dual Quad Core, 1TB
Worker Nodes x 13 (SL6, EMI-3 and CVMFS)		(42 GB, Dual Quad Core, 1TB) x 13
Storage Element		100 TB (Currently, Not in production)
Bandwidth		54 Mbps


Done Jobs
AliEn v2.18
AliEn v2.19
Replacement of catalogue machine
Central services maintenance
Power cut
4 new apiserv machines
Hardware failure
Central services - task queue
Done Jobs [Number]
120000
115000
110000
105000
100000
95000
90000
85000
80000
75000
70000
65000
60000
55000
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
Feb May Aug Nov
2010
2011
2012
2013
2014
2015
2016
COMSATS

New Site Status: Tier-2 Data Center

- **ALICE Jobs : 2000**
  - **Worker Nodes**: 128
    - OS installation: **Completed**
    - WN configuration : **30% Completed**
  - **CREAMCE**
  - **VOBOX**
  - **SITE BDII**

In progress

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Future Site Status: Tier-2 Data Center

- **Memory/RAM** : 3.0 TB
- **HDD**: 50 TB
- **Storage Element**: 380 TB
- **Network Bandwidth**: 500 Mbps/1 Gbps
- **IPv6** is configured successfully
- COMSATS is connected Via **PERN** to outside World

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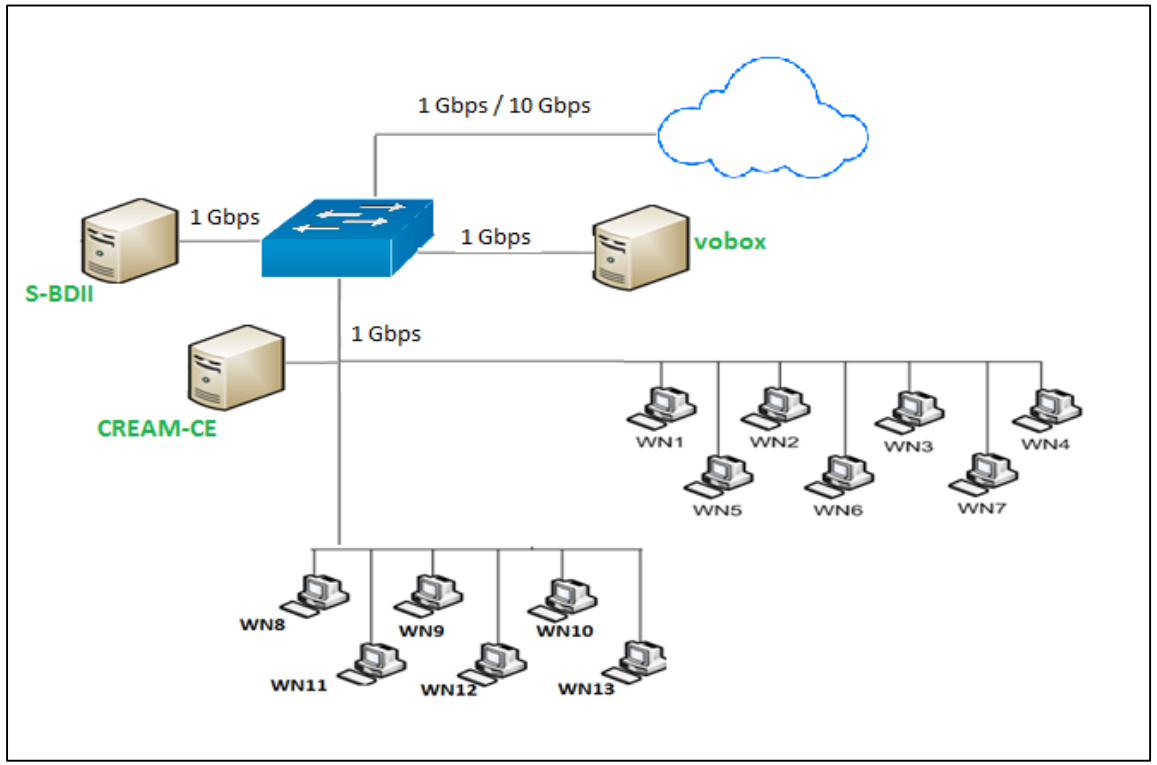
Architecture of new Site



Summary and conclusion

- First target is to up the new site until Start of 2017.
- Trying hard to ensure Availability and Reliability.

THANK YOU