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# Computer Centre Shutdown Post-Mortem

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(Presented at HEPiX by A.Silverman)

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# Contents

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- Goals ... IT not ST 😊
- Procedures
  - The Plan
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- The Costs

# IT Goals

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- Test emergency run-down procedures
- Operators
  - Run down services in a controlled manner
  - Simple scripts provided by Service managers
- Service managers
  - Could be present as a backup and to identify possible improvements
  - Allowed to protect service by taking advance steps to de-activate service

# Run down schedule

- 12:00 LSF batch close, IA64 cluster, pdpdev, pdptst
- 17:00 sginst, pttools, HPSS
- 18:00 LXPROTO, EDG testbed, Oracle close devdb,edms-dev,casedb
- 22:00 Oracle close cerndb1,accdb,edmsdb
- 02:00 shiftnomad,na49i,na49b,na45,na48,slap,l3,opal,ccf
- 02:30 dxplus,hpplus,aleph,delphi,cms
- 03:00 GEANT,ipts,tomog,atljprgd,sundev,th,mta,lxplus,lxshare,lxbatch
- 03:30 LSF master,registration,fatmen,stagers
- 04:00 Xterm,inssrv,Objectivity,CAE,AXCAD,EDMS,IDE disk servers
- 05:00 Legato,ADSM,Tape servers and robots, CASTOR,TMS,sysreq
- 06:00 ps/slufs,prntrsv,Windows,Mail,News,LDAP,Web,ASIS,Remedy
- 06:30 ISS, Oracle,License servers
- 06:45 sure,ACB
- 07:00 AFS
- 07:30 Console manager, Tvscreen, Ops Help
- T-15 DNS, Spectrum, Internal network

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# Players

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- 1 operator Overnight
- 2 operators 06:00-18:00
- 4 Serco 15:00-21:00
- Service managers as needed for start

# Run down Reality

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- ✓ Simple scripts for Complex services
  - ✓ Ops ran - CASTOR, AFS
  - ✓ Expert ran - Windows, Oracle, Web
- ✓ Cluster Automation
  - Verification unclear
  - Functionality mixed: NFS server /client order
  - Exceptional clusters not catered for
- Complex multi-step procedures
  - Ops ran – time consuming, expert clarifications
  - Experts ran
- TMS backup truncated / Systems missed

# Startup reality

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- Initial order respected
  - Network - AFS - Windows
- Lack of control over physics services
  - Ops had start order, but were in no position to verify completion of previous step
  - Serco / Service Managers
- Exception Handling
  - Hardware failures
  - Badly shutdown machines



# Prepared for Emergency?

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- More than before ... but No!
  - 1 script shutdown per service possible, not achieved
  - Would still take too long
  - Establish an ordered list of critical servers
- Startup requires experts
- Even a well planned service run down has a large cost
  - Avoid risk with a reliable infrastructure

# P + M + I

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- Consultation
  - other divisions AS, PS, SL, ST on timing
  - Experiment on batch draining
- Coordination
  - Service manager procedures and dependencies
  - CCSR
- Publications
  - Bulletin articles
  - news (English+French)
  - Web schedule
  - Zephyr messages

# P + M + I

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- Physical
  - Linux CPU Servers [100/800] (8 hardware)
  - Registration server
  - Linux Disk [20], shift3, shift6, shd09, shift19
  - EDMS, AXCAD, SDT, suninst
  - suncsdb, sunlhcacr
  - Windows: 5 power supplies
  - mail8, mail5 (mail6)
- Ordering
  - Linux CPU
  - shift19
- Configuration
  - shd62
  - LSF license problems – no batch

# P + M + I

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- +1 operator      06:00-18:00
- 5 Serco      15:00-21:00 Saturday
- 5 Serco      09:00-18:00 Sunday