



Strategies to Develop a World-class Data Center Operations Team

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23 April 2013

the global data center authority
www.uptimeinstitute.com

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Uptime Institute goal is comprehensive, innovative, high performance, sustainable solution across the entirety of the assets and expertise that deliver information services to the end user.

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Tier Standard: Operational Sustainability

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Facilities Management Case Study



- New data center for large western bank
 - > Site 'handed off' to Operations team after IT began migration
 - > Concept of Operations undetermined
 - 24x7 staffing presence not justified to CIO
 - > Abnormal Incidents in mechanical systems
 - > Out-of-balance PDUs
 - > Downtime risks due to maintenance or equipment failure
 - > IT strategy not supported at brand new site
- Core engineering and operations issues first evident at commissioning stage

Commissioning



- Extended effort to test and ‘prove’ the data center at multiple levels
 - > Individual equipment
 - > Subsystem
 - > Entire data center under simulated load at design capacity
 - Integrated Systems Testing (IST)
- Issues are discovered and addressed during warranty period
 - > Before site carries critical load
- Best practice is third-party commissioning agent (CxA)

Risks to Commissioning

- Delays in project too often lead to reduction in commissioning steps, especially IST
 - > Re-design
 - > Site Conditions (e.g., weather)
 - > Lack of timely equipment delivery
 - > Cost and budget (i.e., fuel, load banks, staff)
 - > Pressure on project team and/or executive management to go 'live'
 - Speed-to-market for commercial data centers
 - Limited capacity at existing sites makes migration a 'must'

Consequences of Limited Commissioning



- Uptime Institute data shows that #2 cause of failures is Site Development issues
 - > Quality
 - > Construction
 - > Other Manufacturing
 - > Product Deficiency
- Uptime Institute analysis shows that Site Development issues will be recognized and addressed during rigorous commissioning effort

Consequences of Limited Commissioning



- Uptime Institute analysis shows that #1 cause of failures is Site Procedures
 - > Site Procedures start at commissioning when the team 'learns' the data center infrastructure
 - > Future staff and vendors will follow site procedures that are proven at commissioning
- Facilities Management Team miss a 'once in a site lifetime' training opportunity
 - > No consequences
 - > Hands on
 - > Warranty fixes



Plan for Commissioning



- Key management and operations staff present, and participate actively, in commissioning
 - > During final stages of construction, develop concept of operations and hire/identify key staff
- Document lessons learned for all current and future staff and vendors
- ‘Saves’ (staff intervention) are key to avoiding downtime
 - > Participation in commissioning results in smarter saves

Summary



- Rigorous testing reveals issues that would damage the site if not addressed
- Key operations staff trained in site activities
 - > Maintenance bypasses
 - > Change of configuration
 - > Simulate at-risk conditions
- Commissioning is the 'road test' for the engineering and operations of a data center
 - > Foundation of a world-class Facilities Management Team



We've been there when the lights went out.

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