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Due Diligence as part of Data Centre Management

Data Centres can have a high amount of coverage and exposure within the business during the Design and Build phase of their lifespan. Once the Data Centre proceeds through the transition from a 'Project' to a 'Business as Usual' operation the high level visibility fades away unless subsequent, unplanned problems arise. Due Diligence, as part of a Data Centre service management process, is a key activity in the lifecycle of the facility, ensuring that the Data Centre is maintained and kept to an agreed level of operational service through the use of best practices.

Operating standards, frameworks and codes of practice; how best practices can be utilised; the day-to-day operations; third party management and selection; and, how change management can help in the ongoing management of the Data Centre, are all important considerations.

Operating Standards and Frameworks and Codes of Practice Applicable to Data Centres

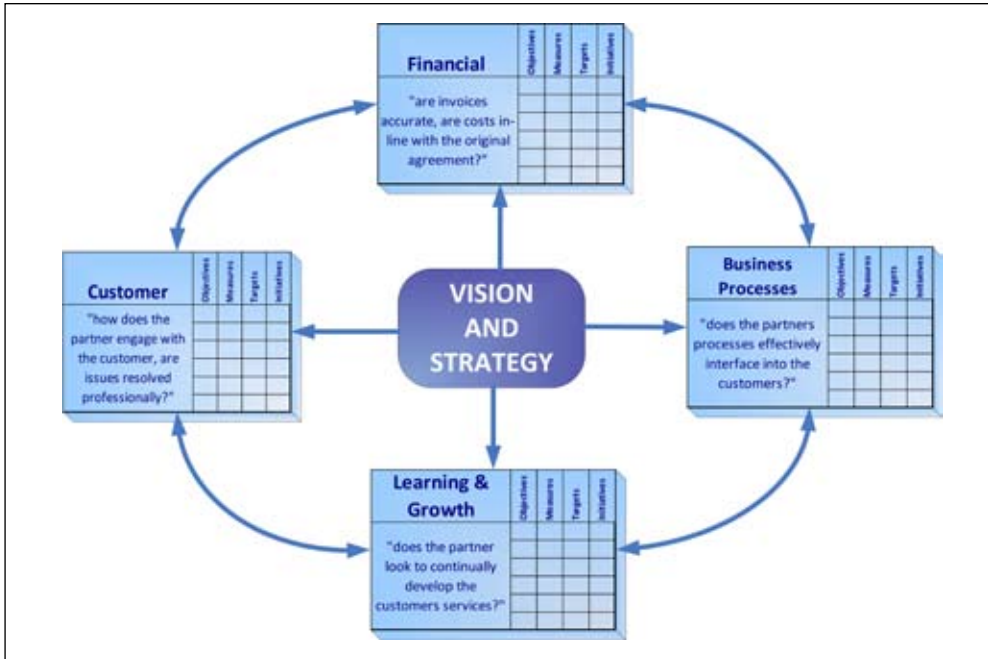
Data Centre operational Standards, Frameworks and Codes of Practice, such as ITIL, ISO/IEC 20000, EU Code of Conduct, ISO 27001 – 17799, TOGOF (Operation Framework) have been available for many years. These standards focus on different aspects on Data Centre operations, from the environmental aspects right through the spectrum to Physical Security. There is no 'one size fits all' solution, yet taking the best attributes out of the standard, framework and code of practice that fit within an organisation and the facilities will provide a better bespoke solution.

Striving for Operational Best Practice

To enable an organisation to aim for best operational practice within Data Centre management, it is important to ensure that from

the definition of the policies and processes through to implementation everything is effectively implemented, communicated and subsequently regularly assessed throughout the lifecycle. These processes and policies must be embraced by all staff, whatever their level, and in Business-as Usual operation, must be adhered to.

From PTS Consulting's experience, the implementation of new policies and processes into an organisation can greatly benefit from the assignment of a Project Manager to 'drive' the implementation. The Project Manager is able to focus on the implementation programme, thus ensuring timelines are met and that there is no procrastination in the implementation. The business goals for the project are kept within scope and the transformation is effectively aligned to the requirements of the business. It is important to ensure that



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before the policies and processes are implemented into the ‘live’ operation, that employees are properly trained. Employees should clearly understand the role the policies and processes have in providing benefit to the organisation.

In Business as Usual operations, policies and processes that have been set-out initially can become a mundane task, and over time the standard of reporting quality can deteriorate if there is no governance in place. Depending on the size of the organisation, employing or delegating part of an employee’s role as a Continual Service Manager (sometimes known as Quality Manager), will ensure that the policies and processes are being maintained and are kept within the agreed local standards. This role will also ensure that as the organisation grows, the policies and processes grow with the organisation in a proactive way rather than reactively when the organisation realises that its policies and process are out-of-date.

The role of the Continual Service Manger / Quality Manager must include frequent spot checks or audits on how employees employ the processes. Regular training and refresh sessions will ensure that there are no excuses for the processes not being used correctly. As well as regular internal audits, external auditors can provide real benefits in bringing a fresh ‘pair of eyes’ to the process implementations and also bring industry experience to how processes can be improved. Specialist companies in this field can also offer scoring matrixes that benchmark performance.

Constructive criticism from employees that use the processes will enable a healthy organic growth. Particularly, people that use processes on regular basis will add an extremely valuable contribution as they can highlight areas where the processes add little value or where too much unnecessarily time is spent.

The day-to-day Operation of a Data Centre

The day-to-day operation of any Data Centre whether it be a small, medium or large facility must be considered as one of the most important aspects of operational management. Every day must have a set structure with regard to physical and remote checks of the facility and the necessary recording of activities. Whilst evaluating some facilities we have seen the basic daily tasks overlooked whether through insufficient manpower, or simple negligence. Data Centres are regularly referred to as mission-critical facilities and therefore must be treated as such. Failure to carryout the very basic of tasks will, in time, affect the longevity of the facility and the continuity of the services being run within it.

Although many Data Centres have high quality Building Management Systems (BMS) that report issues in a timely manner, conducting daily inspections of the Data Centre at set timeslots throughout the day is an important function of any operations team. A BMS will not tell you if fire hazards are left within a critical plant room or whether there is a slow diesel leak in the fuel tank that serves the generator. Staff who carry out the daily inspections need to understand that this task is not merely a ‘tick-list’, it is an inspection to ensure that the facility and the supporting infrastructure is in a healthy state and can continue to provide 24/7 continuous operation.

Where issues do arise, Incident Reports should be raised to track the issues from discovery to resolution of the issue at the lessons learnt meeting. Over time, these Incident Reports become extremely useful collateral in helping organisations to prevent these issues occurring again or, when and if they do occur, what processes can be implemented to ensure a timely resolution. Other tasks for a Data Centre’s day-to-day operation should include: ensuring security access logs are in place; checking the CCTV system to ensure that it is recording to the set amount of days / weeks; raising the permits to work for the day’s implementations; and, Planned Preventative Maintenance Checks on the Data Centre’s Infrastructure.

The day-to-day reporting and physical / remote checks of the facility must not be too onerous, thus should be as streamlined as possible whilst ensuring that the Data Centre's needs continue to be captured.

Third Party Maintenance Company Selection and Management

In most facilities there will be parts of the Data Centre's infrastructure, such as Generators, UPS System, Fire Suppression and Detection Systems that cannot be maintained by the organisation's own employees and therefore Maintenance and Break-fix Contracts should be set in place with appropriate third party companies. The task of selecting the Maintenance Company should not be viewed as a Contractor or Supplier Selection but as a Partner Selection that will work within the organisation as part of the operations team. Choosing the right company to maintain parts of the Data Centre's infrastructure should be treated with the same due diligence as the recruitment of a new employee. Not only should the companies that are being evaluated offer the right service and have a suitable amount of experience in the required field, but there should also be focus on whether the company being offered the Contract will understand the organisation's needs and have the right culture to work alongside the permanent employees within the Data Centre.

Another important aspect of the Partner selection is to ensure that the correct Service Level Agreements (SLAs) are set in place and that these fulfil the needs of the services being supported by the Data Centre. SLAs must be reviewed on a regular basis and when there is a major change within the Data Centre that affects the part of the infrastructure that the SLA covers. Failure to review the SLA Contract after a major change could potentially breach the SLA contract, or worse, leave the data centre at risk during a failure situation.

Once the Maintenance Contract and SLA are in place, it is easy for the Partner relationship focus to drop, especially if the part of the Data Centre's infrastructure they are supporting has a low failure rate and minimum Planned Preventive Maintenance checks. Having regular review meetings with the Partner will ensure that the organisation is kept abreast of any changes within their company and provides an opportunity to update the Partner of any changes within the organisation. It also provides all parties with an opportunity to highlight any areas of concerns they may have with the current service and suggest any changes they feel will benefit the part of Data Centre's infrastructure they are supporting. Any changes made, may need to be reflected in the contract's schedule.

Appraising the Partners at these meetings will provide them with a clear view from the Client's perspective on existing performance, where any improvements can be made and provides an opportunity to re-set objectives aligned to the organisation's needs and requirements. These appraisals can be used as a benchmark for moving forward at the ongoing review meetings. We have found that organisations can benefit through implementing a balanced scorecard performance reporting process that allows the Client to track the partner's performance in:

- The key areas of financial management of the agreement: are invoices accurate and are costs in-line with the original agreement?
- Client Relationship: how does the partner engage with the Client and are issues resolved professionally?
- Internal business processes: do the partner's processes effectively integrate with the Client's and are the processes efficient in resolving issues?
- Learning and growth: does the partner look to continually develop the Client's services

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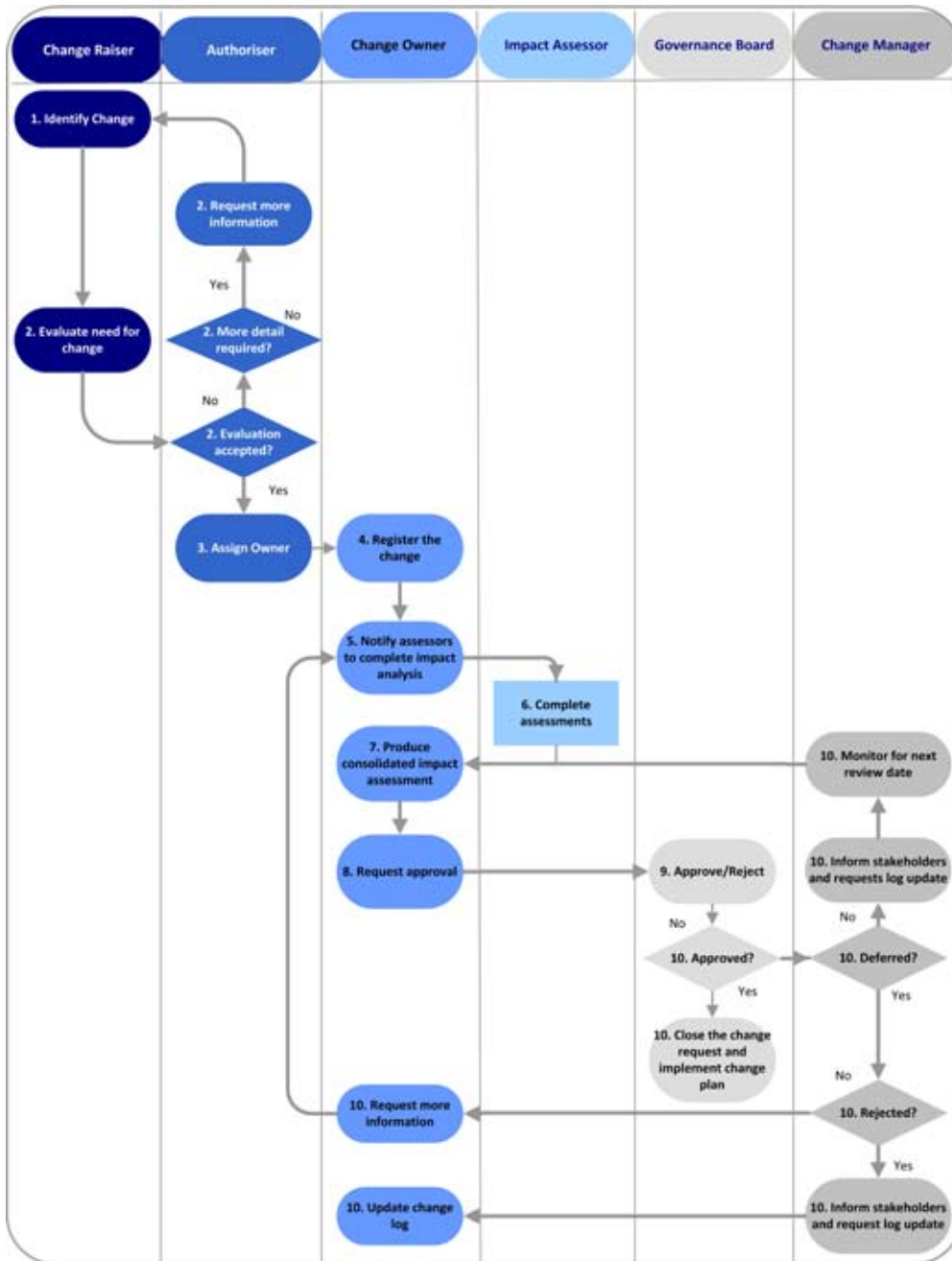
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thorised approver is an essential element of an effective Change Control process.

A low risk change, such as a Planned Preventative Maintenance check on an air-conditioning unit will be relatively quicker to approve as this would be considered low-risk rather than a change such as where a UPS System requires all the batteries replacing and bringing the critical power to a less resilient level. Changes like this should be considered as high risk and must have been reviewed by an agreed approver. The most important part of any change regardless, of the size of the organisation, is that no change must take place without it being approved by the relevant members of the change control approval board. Failure to follow this process will put the Data Centre at risk and must be treated with disciplinary action if this does occur. All employees therefore need to embrace the change control process. ■

Conclusion

Our approach to reviewing the operational practices within a Client's Data Centre is firstly to understand what the Client is trying to achieve with existing implemented policies and processes. We can then evaluate the effectiveness of the policies and processes ensure that staff are correctly trained and that refresher training is offered to keep staff up-to-date with changes. Provisions will be made to ensure that regular internal checks take place frequently and that change control is implemented effectively for the Client's 'day-to-day' operation of the Data Centre.

Policies and Processes have to be aligned with the organisation business and so will require regular reviews over time, or they will become out-of-date and provide little or no value to the organisation. The importance of assigning a role within the organisation to ensure that policies and processes are reviewed is essential. Employing or assigning an existing employee as a Continual Service Manager / Quality Manager are important to delivering and maintaining mission critical systems for the future, with a clearly structured Governance model playing a key role in the success of due-diligence in Data Centre Management.

and suggest new ways of operating and educating the Client?

Through aligning the Balanced Scorecard with the organisation's needs and selecting no more than four key areas within each quadrant for measuring and tracking the organisation, this can provide the partner with a regular appraisal of their performance. Organisations that employ the Balanced Scorecard process can greatly reduce conflicts with partners and can develop a long and respectful relationship with them.

Managing and Understanding the Importance of Change Control

Change within any Data Centre always carries a degree of risk but in many cases this

is unavoidable and will occur many times throughout its lifespan.

Providing an efficient and effective change control process that is well understood and followed by the organisation's employees and their partners will reduce the number of failed changes. Managing changes effectively will reduce the impact the requested change may have on live services. Providing the Change Controller with the right tools for tracking and auditing change requests will greatly assist in the implementation of the process. Ensuring that the Change Control Manager evaluates a change effectively and clearly understands the risks and ensures that any risk is mitigated or accepted by an au-