

ABSTRACT

Pusat Dokumentasi dan Informasi Ilmiah - Lembaga Ilmu Pengetahuan Indonesia (PDII-LIPI) is a provider of publishing services in Indonesia. PDII-LIPI has a lot of publications list, so it is necessary using data center to store the entire list of publications for the continuity of PDII-LIPI's business processes. Data center is an important component in ensuring the sustainability of information technology. At the current state, PDII-LIPI has several servers that are not optimized well so it takes large amount of power usage.

Based on PDII-LIPI business strategic planning, the existing data center of PDII-LIPI will be located in second floor of PDII-LIPI building from sixth floor of PDII-LIPI building. Therefore, it needs new design and analysis for developing data center instruments. Designing PDII-LIPI data center, we use TIA-942 standard as best practice. Using TIA-942 standard we focused on power management section. Beside of that, it needs method for guideline for building new data center. PPDIOO Network Life-Cycle Approach is chosen for the three first stages which is Prepare, Plan and Design. Use of the method PPDIOO Network Life-Cycle Approach suitable to be applied in the PDII-LIPI data center development because it has phase in the form of cycles, so as to accommodate the sustained growth.

The purpose of this research is to produce a design of the PDII-LIPI data center compliance with standards and achieve tier 2 referenced to the TIA-942 standard. The final results are new location with support area, electrical systems including implementation of uninterruptible power supply (UPS), raised floor design, room layout, and power management optimization tools with virtualization method.

Keywords : data center, server, TIA-942, power management, PPDIOO Network Life-Cycle Approach