Performance Gap Analysis

IT Help Desk Case Study – January 2005

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Introduction

The purpose of this document is to provide the administrative staff of a nationally recognized University with a Performance Gap Analysis of their help desk services and capabilities. Performance Gaps exist in organizations when current process, technology and resource capabilities do not meet the needs of its 'customers' or the overall organization's business objectives. P4 Performance Management specializes in identifying and minimizing performance gaps by eliminating technology and process gaps to increase business process functionality.

In response to the concerns, state auditors documented surrounding help desk capabilities at the University, administration formed a help desk committee, lead by the director of Communications and Technology. The help desk committee was made up of seven help desk representatives under the direction of Academic Affairs and Finance and Business along with college IT representatives such as from the College of Engineering. The purpose of the committee was to have a forum where the auditor's findings could be discussed, weaknesses evaluated for alternative resolution and appropriate actions to be implemented could be recommended. In support of the University's objective to address the state auditor's findings are consistent with the help desk's committee charter, P4 Performance Management was brought in to identify performance gaps and provide its expertise.

Sponsors

After initial dialog with the University's Vice Chancellor of Finance and Business, P4 met with the vice-provost of Resource Management & Information Systems and the director of Communications and Technology. The director of Communications and Technology assumed the sponsor's role and provided insight and direction as well as coordinating the necessary introductions, visits and meetings to complete this analysis.

Performance Gap Assessment Method

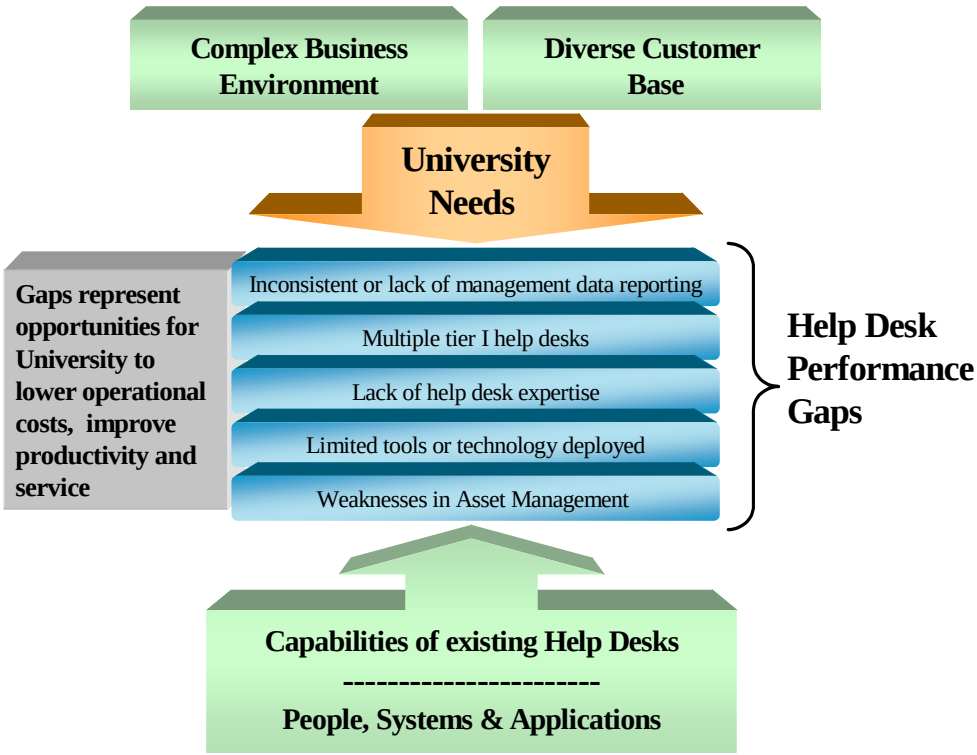
After initial introductory and direction setting meetings, P4 principles spent two days on campus meeting with administrative staff representing four of the help desk functions. The four centers we met and visited were:

- College of Engineering (CoE)
- Administrative Computing Services (ACS)
- Network Operations Center (NOC)
- Network and Client Services (NCS)

During the visits, information was collected and observations were made that are the basis of our written analysis. It was not intended by P4 or our sponsors to pass judgment, particularly in the area of people or functional performance, but rather to identify areas of opportunity (Gaps) that translate into support weaknesses, inefficient performance and potentially dissatisfied customers. P4's objective was to leverage its considerable experience and expertise in the area of help desks and provide the University an analysis of Performance Gaps and recommended actions to address them.

Findings/Recommendations

P4 understands the complex issues when serving a diverse 'customer' base of students, administration and faculty in a premier educational and research institution environment. The unique needs of the University coupled with the high expectations placed on the country's institution historically noted for advanced technology and research creates significant performance challenges. These demands require leadership capable of evaluating and implementing existing technology within the reduced IT budgets common place in today's environment. Adopted solutions must achieve aggressive return on investments (ROI) and align with overall business goals. P4 believes significant opportunity exists for the University to achieve its goal of providing a single number, email and web access for help desk services. This can be accomplished while lowering help desk operational costs, improving productivity across the entire campus and lowering total cost of technology ownership.



The above chart illustrates the performance gaps that exist between the needs and the current capabilities of the University. These gaps represent significant and immediate opportunities for the University to lower on-going operational costs, improve productivity and service. Individual center profiles are attached at the end of this report.

Findings / Recommendations (cont)

1. **Inconsistent or lack of management data reporting:**

   Help desk centers collect, record and report very limited information about the performance, efficiency or user satisfaction levels for each center. Typical data collected and reported such as call volumes (PBX, ACD or email), trouble ticket counts, and mean time to respond/repair/restore, clearance actions and root cause analysis is not generally available. Service Level Agreements (SLA) between help desk centers has not been established. Remedy, the University's resolution tracking system is not deployed or utilized by every center. Additionally, management objectives relative to service expectations were either not defined or communicated.

   Centers are unable to identify their top reasons for customer inquiries. Without consistent data, a center cannot perform next day analysis for root cause remedies. This puts all of the center's efforts in a reactive mode, only being able to respond to problems, not prevent them.

   P4 recommendations:

   Establish Key Performance Indictors (KPIs) that align with business objectives and 'customer' expectations. These KPIs should capture metrics that measure current performance against best practice service level targets. These measurements center on volume, speed and accuracy. Definition for each KPI should include common terms, data source, measurement formula, reporting format and objectives across all centers. Selective KPI creation is required to ensure measurements are reflective of Tier I, Tier II and other organization contributions. The collection, reporting and trending of help desk KPIs is the basis for managers/administrators to make evaluations and decisions relative to resources (people and technology) and is imperative to managing and rewarding personal performance.

   Establish SLAs between depended centers, providing service expectations to be set, measured and met. A standard SLA template needs to be created that covers the standard operating agreements across the University. Customized agreements where required should be negotiated at the director level and performance against all SLAs reviewed frequently.

   Designate Remedy as the resolution tracking system that all help desk centers/functions utilize, without exception. The University Information Technology

needs to provide a directive that ensures compliance across the campus.

Create Remedy weekly, monthly performance reports that compare actual performance to KPI objectives. Reports should be created, pulled and published by a single staff organization. Directors should require performance improvement plans (PIP) from center managers for KPIs not meeting objectives.

Root cause analysis activities need to be established. Next day analysis needs to occur and become a discipline. Next day analysis is the trending of network and system events, collated with user inquiries, determining root causes of outages and degradation of service. Conducting trouble distribution analysis will identify "TOP" causes and provide priorities for Tier II and III to address. An effective next day analysis function can significantly reduce customer issues, lower call volumes and allow a center to move from reactive to proactive and eventually preventive mode.

2. **Multiple tier I help desks:**

University administrators, faculty and students have a number of options when seeking assistance with an IT related issue. These multiple choices for service create confusion and inefficiencies among the University technology users, as well as dissatisfaction with overall technology help desk support. Inconsistent and poorly matched help desk capabilities to user needs are the root cause of why the University has multiple help desk centers today. Each user community felt at one time or another that the services provided by a 'center' did not meet their needs therefore they decided funding and operating their own help desk center would better serve them. This obviously has created a duplication of effort and costs as it relates to technology, facilities and resources and resulted in fragmented groups which are small in size and diluted in capabilities.

There is no accountability for problem resolution when referring a trouble ticket across the University help desk community. If a problem is referred to another center for resolution, even when using Remedy, they are not tracked through closure by the originating center. This creates a gap in ticket ownership, lost continuity, visibility and a perception by the user community that there is a lack of understanding of their needs.

Additionally, responsibilities within each help desk center are not clearly defined by position level. Tier I tasks are sometimes performed by Tier II personnel. As the centers are organized today, there are constant conflicting priorities to basic help desk responsibilities. Because multiple functions are performed under each center manager (consulting, project management, physical dispatch for install and repair, etc.) they are required to utilize their existing resources to achieve the day-to-day tasks, which at times can be in conflict with Tier I and Tier II support objectives. Help desk functions, particularly Tier I where customer interaction is paramount, needs to be a top priority.

Even with multiple help desk locations, there is no disaster recovery plan suitable to handle multiple help desk responsibilities from a single secure location.

P4 recommendations:

Consolidate all Tier I resources into a single University Service Desk Center (USDC), therefore establishing one place, one phone number, email and web site for administration and faculty to call for help. This USDC would be responsible for trouble resolution tracking and escalation until closure. Consolidating all help desks calls into a single center would create significant improvements in customer satisfaction and leverage the economy of scale that comes from a larger, better skilled set of resources.

People, Process and Tools are the three legs of help desk performance and stability. Establishing a USDC where a set of standard operating procedures, common tools, objectives and dedicated, skilled staff & management will create significant productivity gains across the entire University. By providing high caliber services to its user community, the USDC becomes an enabler of technology, delivering on the original promise of productivity.

Establish organizational structure for Tier II and Tier III support. Recognizing that there are specific needs of users, for ex. a college or highly complex application user group that require dedicated support functions. This should be accomplished without the replication of Tier I functions. The USDC would serve as the "Front Door" for every user, providing one call, one place to create and track problem resolution. Tier II functions would remain dedicated to their specific areas of expertise, allowing their efforts to be integrated into the fabric of the University's one call, one place, help desk strategy (USDC). Position descriptions, job objectives and disciplined management needs to be established so that the organizational structure created can leverage its available resources to accomplish its objectives.

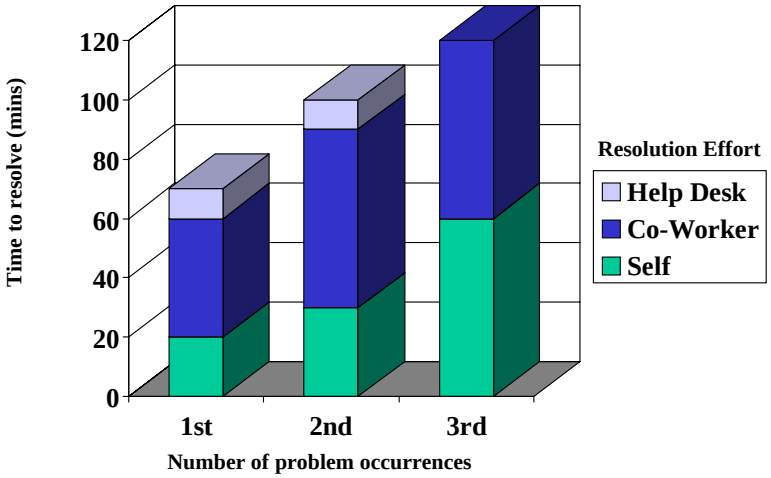
Establish Disaster Recovery Plans. A business-continuity strategy needs to be developed that provides for help desk services and capabilities in the event of a disaster. This strategy should include an implementation plan that achieves high-availability during network and system outages, and for disaster recovery in the event of a facility meltdown.

3. **Lack of help desk expertise:**

Help desks that we visited lacked staff and management with practical help desk industry experience. Training for individuals is limited and is generally provided by co-workers as on the job training. Without an adequately trained help desk or technical resources to call upon, people seeking assistance bypass Tier I and go directly to Tier II, or another identified resource, i.e. faculty using building LAN engineers directly.

In some cases students are utilized in rapidly rotating shifts (two hours). It would be very difficult for someone to achieve a high level of service efficiency without the necessary training and support required in a complex application environment.

Administration staff largely depends on Microsoft office products to conduct their daily work. To the best of our knowledge, no University help desk is tasked with providing user assistance for MS Word, Excel, PowerPoint, Access or MS Project. Training is almost certainly required provided there is still a need for help support on these applications. Without a place to call for assistance, staff will spend unproductive time trying to find the solution, often consuming co-worker's time by asking for assistance. This example of a 'lack of a need being met' by a help desk is often called an ICEBERG. The tip represents the person who has the immediate need. Below the water line, the not obvious or visible part represents the loss productivity of multiple people that are adversely impacted as a result of their co-worker's requests for help. The MS Office example could easily be representative of a user calling the help desk and not getting their needs met for an existing supported application. Anytime a user calls the help desk and cannot be serviced, the resulting behavior is counter-productive in terms of utilizing resources not designated for help assistance, i.e. co-workers. This is illustrated in the chart below where escalating loss of productivity occurs as a result of user needs not being met by the help desk. Over time users will stop calling the help desk. The underlying loss of productivity still remains, but the visibility to the problem is loss. This is an example of where a highly effective help desk strategy can increase the productivity of the entire administration staff. The mistake that many organizations make is they focus solely on help desk efficiencies and lose sight of the bigger picture. A 1% productivity gain across an entire organization far exceeds a 50% help desk improvement.



This chart illustrates the escalating loss of productivity when a help desk fails to meet users expectations and needs

P4 recommendation:

Define the necessary skills & hire experienced people. Identify the experience and education requirements to perform help desk service functions. Ensure position descriptions by job classification match requirements. Fill any current open positions with experienced qualified help desk candidates. Recruit an experienced highly customer focused Service Desk Manager to operate the University Service Desk Center (USDC). A leading help desk institute should certify this person.

Training programs for Tier I and Tier II need to be established. A skill inventory of existing resources should be taken to determine the level of training effort required and whether or not the University has the capability to deliver this training in-house or use external training suppliers. It is anticipated that the initial training requirements will be significant, because it is not unusual for large gaps to exist between current skills and job requirements. Training is an on-going commitment. Training costs can be substantial, but the return can be rewarding. An annual training budget should be established that provides a minimum of 5-7 days of help desk specific training per person, per year.

Investigate services vs. needs. It is recommended that the University conduct a return on investment (ROI) evaluation for providing help desk support for Microsoft office products.

4. **Limited tools or technology deployed:**

Remedy appears largely deployed in most help desk centers, but not across all centers. In centers where Remedy is utilized there are examples of feature/functionality not being used that could provide center efficiencies. These include web access, configuration management, reporting, prioritization of queues and asset management.

Aside from a couple of primitive tools we saw in the Network Operations Center, there are no monitoring or proactive tools available to assist in hardware or software problem prevention, quick isolation or resolution. Without call distribution devices (ACD, etc), it is difficult to track call volumes or route callers to best qualified and available Tier I agents. Advanced database look-ups, CTI, are not deployed. Routine and common Tier I problems are not being handled by automated applications or self-service processes, thus creating unwarranted calls into a center. No knowledge management system exists to capture self-learning information or provide help desk scripts.

P4 recommendations:

Deploy remote diagnostic and monitoring tools. Many IT service management applications exist that can provide remote diagnostic and monitoring capabilities for desktop hardware and applications. The immediate benefit is in moving the help desk capabilities from its current reactive mode to a proactive and eventually a prevent mode.

An evaluation of competing products and services should be conducted to determine the best fit for the University's requirements. A ROI justification threshold should be established that has a minimum return on investment of any IT tool no more than 12 months.

Begin the planning process for self-service. Many repetitive problems can be effectively handled using an automated response or self-service application. Password resets are most commonly dealt with in this fashion, but so are advanced pay for services. For example, a student calling the help desk to complain about an inability to print. If the problem is related to the students 'print quota', a CTI application would provide a student profile look up at the time of call receipt, providing the Tier I agent with intelligent information to resolve the problem quickly and efficiently. Technology to provide intelligent call routing (skill based routing), allowing the call to be routed to the best qualified agent, can provide significant service improvements in terms of reduced resolution times, and customer satisfaction. As the University's ability to implement self-service applications grows, the student without live help desk intervention could resolve the identical printing problem. Most common troubles and problems need to be analyzed and scoped out for automated response/self-service applications to include IVR and text to voice. Applications complexities vary greatly as do costs to implement. It is suggested that the University spend considerable time collecting data and performing a business justification (ROI) prior to embarking on this development recommendation.

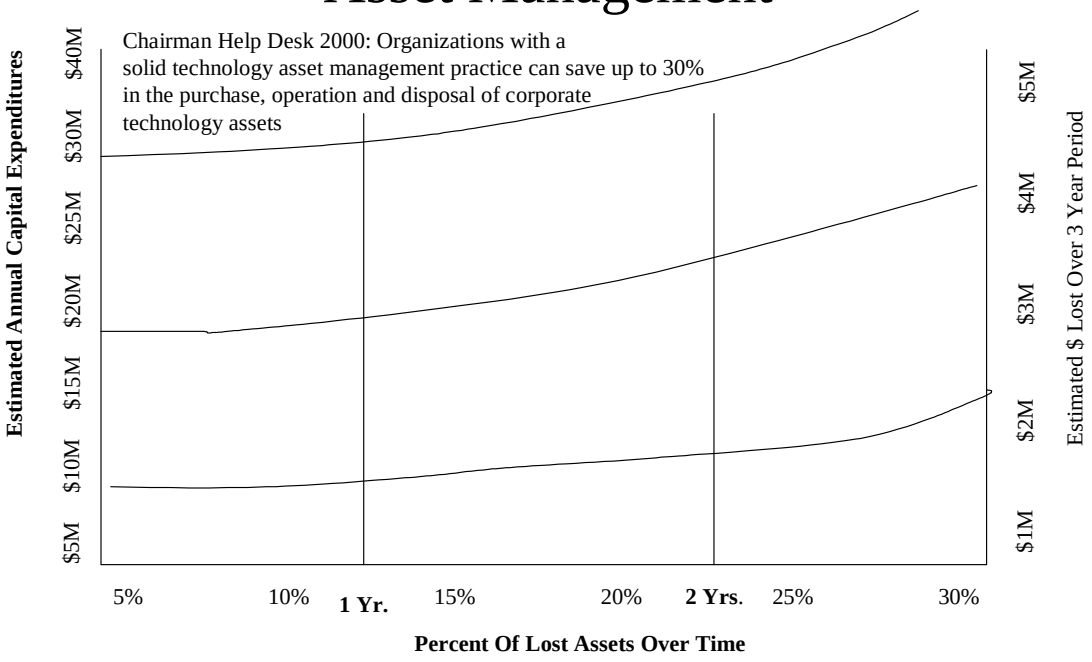
Self-learning opportunities - Evaluation of a knowledge management system should be considered. The time saving that accompanies self-learning, i.e. trouble resolution scripts built based on time proven experiences in your center, handing your customers, can be significant. Like any application to be purchased, a thorough investigation and justification is required to ensure the anticipated benefits are achieved.

5. Weaknesses in Asset Management:

To our knowledge asset management has been delegated to department heads, without the assistance of any systems, technology or methodology. There is no management of the University's IT assets being conducted by the help desk centers. The centers represent the most logical and capable organizations to own this responsibility. Substantial investments have been made in desktop, server, networking, storage and printing capabilities. Without an effective and cost efficient method to manage the assets, the University can not be assured of leveraging its investment for the full expected value. Additionally, without proper asset management, future IT investments can potentially be made prematurely causing duplication of existing or not needed technology.

Cost Avoidance Opportunity

Asset Management



P4 recommendations:

Asset Management, Asset Management, Asset Management - The above chart represents an illustration of the opportunity asset management provides for cost avoidance. It states that with larger capital expenditures the likelihood of greater asset loss will occur over time, as high as 30% over a 3-year period. As an example, an organization that spends $30million in IT capital expenditures could be exposed to $9million in asset loses over a 3-year period without properly implemented asset management.

This area of help desk weakness represents the biggest opportunity for future cost containment. Many asset management solutions are available for consideration. P4 recommends evaluating a software agent type that provides physical asset inventory and tracks user information, manages configuration changes and software license compliance as well as monitors system performance. Very aggressive ROIs can be achieved when a well thought out asset management program is implemented.

The benefits of an asset manager with the above capabilities are:

- **Reduce Costs**
  Reduce the cost of desktop support and the overall total cost of ownership by

  automatically tracking computer assets and maintaining an accurate inventory of hardware, software, licenses, maintenance contracts, warranties, leasing terms, etc.

- **Increase efficiency**
  Increase the efficiency of many processes in your organization by providing accurate inventory information for purchasing and technology decisions.

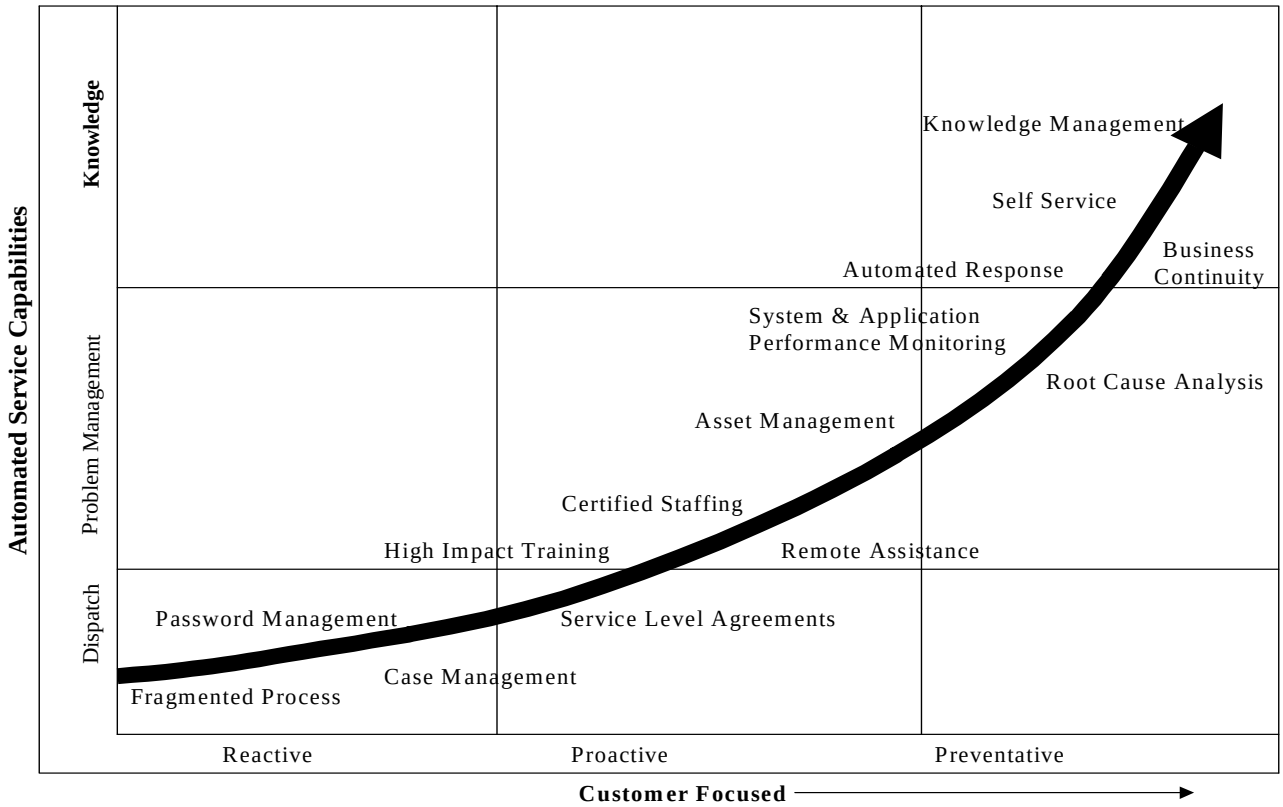
- **Improve Service**
  Improve service by providing service representatives access to accurate inventory records. With this knowledge, they can provide better and faster service.

Conclusions & Actions

P4 believes that this gap analysis contains a number of "Calls to Actions". Call to Actions exists when a combination of compelling data and verified information generates a sense of urgency. When brought to leadership attention, Call to Actions requires immediate decision-making. Choosing to do nothing is not an acceptable option. P4 also believes that its recommendations align closely with those of the state auditors and if adopted not only provide resolutions for solving its help desk weaknesses, but opportunities to achieve significantly lower costs.

The chart below represents P4's Service Desk vision that is highly customer focused and leverages the power of knowledge management.

The University Service Desk Best Practice Maturity Curve



It is our opinion that the University's current capabilities fall within the lower left corner of the above chart. This represents largely the reactive and dispatch orientation that the help desks have today. It is not reflective of the desires for the University, and its users, to advance towards proactive and preventative services. P4's recommended initiatives are designed to move the University up the Service Desk maturity curve in manageable increments that yield short-term return on investments.

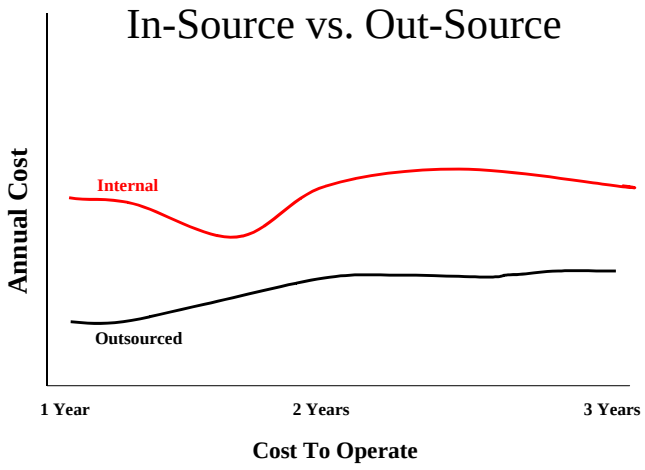
University adoption of a Service Desk vision that embraces knowledge management and customer focus over reactive problem management provides the foundation and sets the course for continuous improvements. In support of that vision, we have summarized P4's recommendations into three major initiatives:

- Build a University Service Desk Center (Tier I help desk)
- Deploy performance management tools and develop automated processes
- Implement an Asset Management program that enables the University to track, evaluate, and utilize existing IT resources

Initiative Summary

- **Build a University Service Desk Center, USDC (Tier I help desk)**

  - Consolidate existing Tier I resources into a single center
  - Establish organizational structure for USDC and the supporting Tier II & III groups
  - Hire expertise into open positions and develop and implement required training
  - Incorporate telephony and email routing solutions
  - Deploy help desk agent solutions to desktops, servers and wireless devices
  - Establish standard operating procedures, SLAs, KPIs, reporting
  - Develop a business continuity strategy that includes disaster recovery



The above chart suggests that the alternative of out-sourcing the Service Desk functions could lead to lower initial capital expenditures as well as lower total operations costs.

A significant amount of data would need to be collected to see if these cost saving opportunities are available to the University.

- **Deploy performance management tools and automate processes**

  - Evaluate Network and Desktop remote diagnostic and monitoring tools for deployment
  - Create an application development roadmap that prioritizes processes for automation and self-service
  - Advanced call routing with Computer Telephony Integration (CTI)
  - Evaluate Web & IVR self-service opportunities

- **Implement an Asset Management system**

    - Define and implement a IT asset management system
    - Manages configurations
    - Tracks user information
    - Manages software compliance
    - And monitors system performance

For each of the initiatives, there are three alternative methods for implementation. The options are:

1. P4 Performance Management implements adopted recommendations.

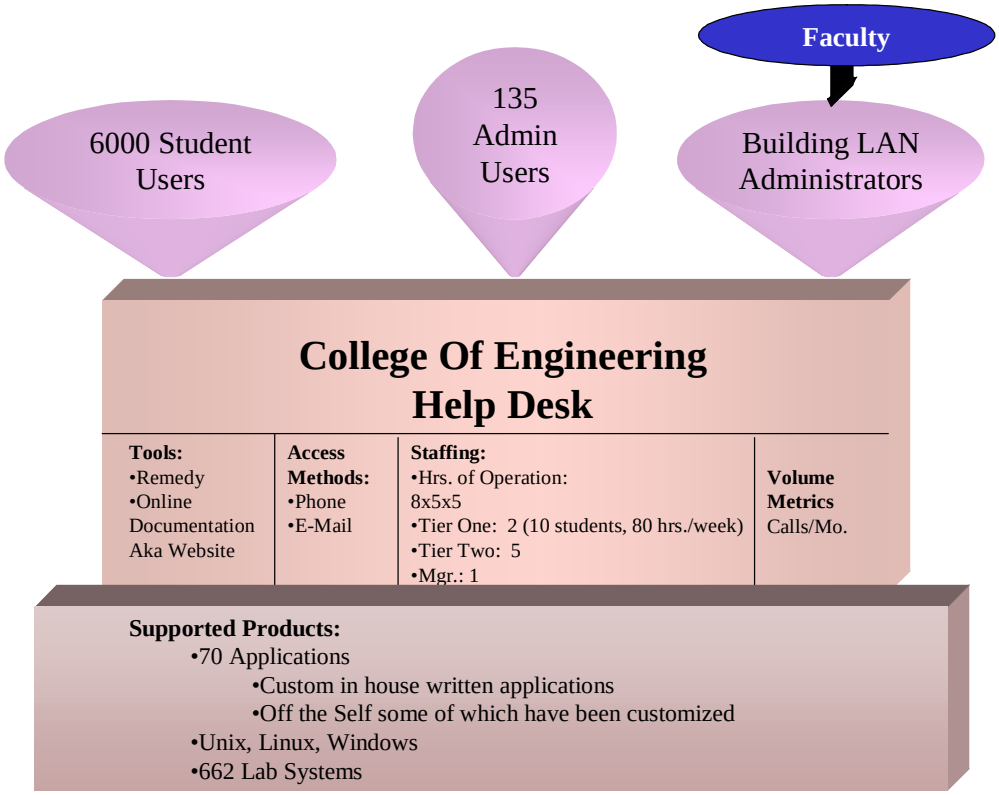
2. The University implements adopted recommendations themselves.

3. The University evaluates other alternatives.

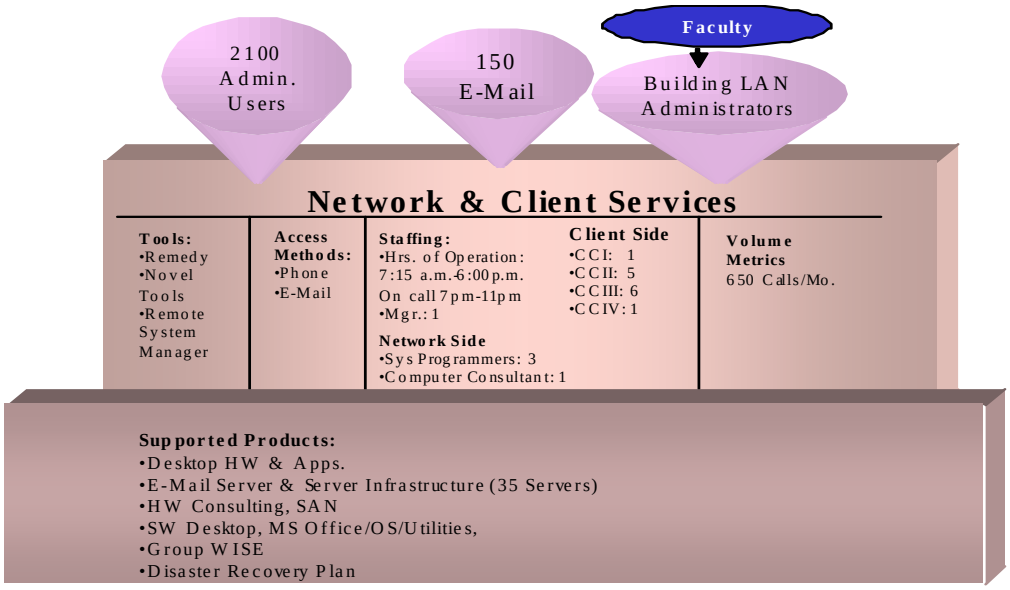
Recommended Next Steps:

- The University leadership meets with P4 principles to develop Performance Improvement Plans. These Statements of Work (SOW) would reflect the scope of effort, the budget and schedule commitments and Return on the Investment analysis. Each SOW would contain measurable deliverables, estimated costs and 30-60 day milestones.

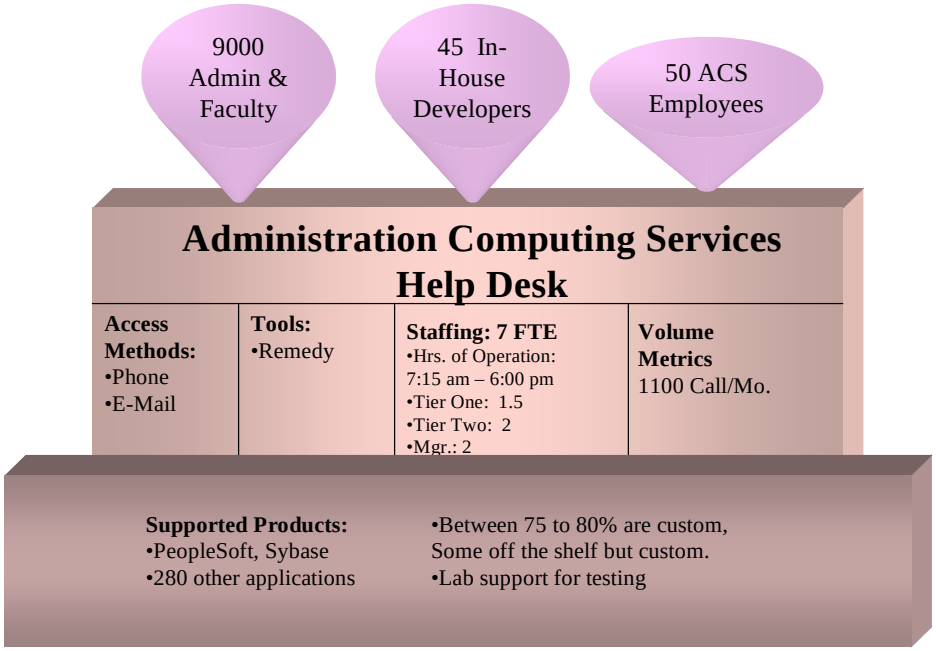
- Work can begin within a week's notice.



•Faculty is supported by LAN Administrators



- Client Side Help Desk personnel work on a rotating schedule
- Client Side Activities include projects, on-site consulting, NCS Help



•Tier One: Dispatch, Password Reset
•Tier Two: Resolve, Quick Response, 1 Day for on site calls
•Tier Three: Install/Test Applications. Work with Developers