Clayton State University
One-time FY16 Over 25K Funding Request

Description: Enterprise Backups

Amount Requested: $216,500

Justification: We currently backup systems and critical data with a home-grow system utilizing open source and/or built in back up tools, which ultimately stores all of our critical data on tapes. The current process is to back-up one server at a time and there is no central control, nor is there any notification of success or failure of the back-up. One of the primary issues with this system, beyond its age and architecture, is that in our current virtual environment an entire server, hosting hundreds of virtual servers, needs to be rebuilt rather than an individual virtual server. This can change the recovery time from minutes to days.

This expenditure will get CSU to the state of the practice, centralized and controlled Enterprise Backup solution, that will eventually lead to the elimination of tape all together. It is designed for today's virtual server environment and will allow for efficient restore of even a single virtual server. Additionally, ITS staff will get daily reports on backups and will be able to see issues when they arise rather than when we try to restore and find out we can't. This is phase 1, which will still ultimately store the data on tape. In phase 2, we will eliminate tape completely.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: VMWare Servers

Amount Requested: $210,000

Justification: Our current VMWare servers are all end of life (EOL) and are no longer on maintenance. Almost all of our Enterprise runs on these servers via VMWare. This purchase would put our critical services on a more robust and supported platform and will give us significant performance improvements over our current outdated servers. This will also allow us to consolidate VMWare clusters and will free up some expensive VMWare licenses. Ultimately, we will redeploy the servers and licenses in a disaster recovery site at Lucie-Huie.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Extra Capacity for Purview

Amount Requested: $26,000

Justification: Purview is a network monitoring tool, which helps ITS keep the network operating at peak efficiency and helps to troubleshoot problems as they arise. Our original purchase was intended as a test, we bought just enough capacity to ensure that it is a useful tool. We do like the tool, and it has delivered on all of its promises and more. Now we need more capacity on the appliance in order to fully utilize it. This expansion will allow us to monitor the entire network at once instead of just parts of it.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Security Camera Servers

Amount Requested: $26,000

Justification: The new security camera system operates on a cluster of three servers running HyperV, an open source virtualization system which is much more cost effective than the VMWare systems we operate for other services. Last year we were able to replace one of the servers at the end of the year, but we desperately need two additional servers. The two we have are very old and are unsupported. As the number of cameras increase in the new system, supported hardware becomes even more critical.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Purchase of 10 Sony LCD Projectors Model #VPL-FHZ55/W

Amount Requested: $38,680.00

Justification: Projectors in conference rooms have historically been replaced through the Technology Fee funds. Over the last two years, much of that funding has gone to convert our classrooms from analog to digital interfaces to accommodate the current laptop technology. This has caused the projector replacement to fall behind and has caused many of our projectors to be in use well beyond the useful life.

This request is to replace the 10 most outdated projectors in classrooms around campus. The replacement projectors will be the Sony LED projectors which are maintenance free and have a longer useful life. Going forward with this technology there will not be a need to purchase the high price lamps, which can cost between $300 and $500, or to clean air filters. Further, these Sony projectors have a life of expectancy of 10,000 hours which equates to approximately 9 – 10 years of useful life. This model projector has been installed in all labs and classrooms in the Science Building.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Data Center to 10G/40G

Amount Requested: $283,000

Justification: The majority of the application that are operated in the data center are all on VMWare (virtual) servers connected to a Storage Area Network (SAN.) We currently have these servers and the SAN communicating over a 1GB connection which then communicates with the network core over another 1 GB link. This speed is becoming a limiting factor in the performance of campus systems. Further, the current equipment is old and at the end of its useful life. In recent weeks, several outages can be traced back to these switches. This project would increase the connection between the servers and SAN to 10 GB and between the switch and the core to 40GB. This would dramatically help the performance of all campus applications while enhancing their reliability.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Syslog Servers

Amount Requested: $26,500

Justification: Each IT system creates a file called a syslog. These files are used for a variety of purposes included forensics after an incident. The BoR IT Handbook has recently created a standard for storage of these syslogs. When the new standard came out, our existing servers were on old, unsupported hardware and lacked storage capacity. We rebuilt the severs as Virtual Machines. This is not ideal situation. This purchase would get us 2 new, supported servers with storage for all of our syslogs and will allow us to be in compliance with the BOR IT handbook.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Load Balancers on Supported Hardware

Amount Requested: $26,500

Justification: Load balancers are used in nearly every application that students access, particularly Banner. They dramatically improve the user experience while enhancing the utilization of the ITS servers. Currently we are using a home-grown system of open source software running on old, unsupported servers for our Enterprise Load Balancing. This purchase would give us a state of the practice load balancing system running on supported hardware.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Network Cache Server

Amount Requested: $40,000

Justification: Currently, each time a user requests a website/download/YouTube/etc., the request goes out across the internet and the information/video/software is returned to campus. On a day when a new movie/game/update becomes available, many users request the same thing causing a bottle-neck on the network and slowing the performance for everyone. This server would analyze our network traffic and cache frequently used/visited content from the internet and store it locally. The content would then be sent across our local network, which has significantly more bandwidth that our internet connection. This would significantly improve network performance.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Replace N7 in UC135

Amount Requested: $157,000

Justification: Much of the network hardware on campus has reached the end of its useful life. While ITS attempts to keep the investment in network gear to a minimum while awaiting funding for a total refresh, the N7 in UC135, our main network hub and secondary data center is well beyond its useful life and needs to be replaced. This project will replace the N7 in UC135 with a new switch with maintenance. The new switch will be consistent with our plans for a refreshed network.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Replace N5 in Student Center

Amount Requested: $127,000

Justification: Much of the network hardware on campus has reached the end of its useful life. While ITS attempts to keep the investment in network gear to a minimum while awaiting funding for a total refresh, the N5 in the Student Center is at a point where it really needs to be replaced. This will replace the Student Center N5 with a new switch with maintenance. The new switch will be consistent with our plans for a refreshed network.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: All wireless to 802.11ac standard.

Amount Requested: $140,000

Justification: The majority of our current wireless network consists of an older technology, IEEE 802.11n and has been deployed as required a decade ago. We have recently had wireless in each building redesigned, both from a location and number of access points and utilizing the new 802.11ac standard. We have implemented this design when circumstances allowed. At the present time, the Arts and Sciences Building, Lakeview Discovery Center, University Center and the Student Activities Center are at the new standard. This project will allow us to implement the new design throughout campus. Note: this project can easily be implemented in segments.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: External Wireless and Gym Improvements

Amount Requested: $35,000

Justification: Currently, we have some very old external access points in various spots throughout campus (library, Athletics, Soccer Field, Laker Hall). All of these access points require a Windows 2000 server to be up and running to function. Windows 2000 is no longer supported. Additionally, these access points do not support 802.1x and therefore will not be able to transmit CSUSecure. This request would replace all these access points with new and supported access points. We also have a problem in the Gym where we do not have enough wireless coverage to support large crowds, so we are installing and removing a temporary access point whenever we have knowledge of an event in the Gym. This request would add enough access points permanently to cover big events.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Closet Improvements

Amount Requested: $29,000

Justification: Several of our Network Closets across campus need improvements:

Athletics E60 - need Air Conditioning (AC) ($8000)

Music Building 1st floor - need AC ($8000)

Lecture Hall - needs new AC - ($8000)

NBS142 - Need to consolidate networking to one space - ($5000)

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Closet UPS Systems

Amount Requested: $65,000

Justification: Our current closet UPS (Uninterruptable Power Supply) systems are from different vendors and nearly all are unmonitored. Further, most are at the end of their useful life, are in need of expensive battery replacements and have shown an increase in failure rate recently. This project will get all our closet UPS systems up to a reliable standard and under one vendor (TrippLite) with power, temperature, and humidity monitored (and alerted on) in all of our network closets. We have already started this with some EOY funds in FY15, this would finish this evolution.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: **New AC for UC135**

Amount Requested: $75,000

Justification: UC135 is the primary Clayton State Network closet, housing all of the campus critical network and telephone equipment. Without power and/or air conditioning the campus network, including internet connection, and telephone systems will be inoperable.

There are currently 2 AC units in UC135, both of which are on the generator. The issue is that the room requires both AC units to be in use to keep the room at an acceptable temperature. This proposal would and an additional AC unit into the room for redundancy. Addition of this AC would allow for maintenance or failure of one AC during normal operations to not affect temperature in the room. A prolonged outage of one AC unit currently would require us to shut down the systems in the room, or take additional measure to keep the room cool. The outage would put critical network and telephone infrastructure would be at risk of damage due to high temperatures.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: **New KVM for L108 and UC135**

Amount Requested: $45,000

Justification: KVM (Keyboard, Video, Mouse) is the method of access for the many servers in a data centers. It allows for remote access and eliminates the need for separate keyboards, etc. for each of hundreds of servers. Currently, we do not have enough KVM control in L108 or UC135. This creates the need to move cables from server to servers to get KVM control. This method works fine when we are here, but does not allow us a great deal of flexibility when we would work remotely, particularly when trouble-shooting problems on nights and weekends. If we are not fortunate enough to have KVM on the particular server that has an issue, we have to come to campus. This purchase will give us enough KVM in both of our data center spaces to adequately support all of the servers.

Clayton State University
One-time FY16 Over 25K Funding Request

Description: Optical Network Pilot

Amount Requested: $65,000

Justification: David Quinn of IP UtiliNet LLC has an interesting and somewhat revolutionary idea on how to do a distributed network using mostly fiber and fiber splicing gear. This approach would supply nearly unlimited bandwidth to every port and wireless access point on campus. It would also eliminate the need for building switches as all network configuration would be done at the network core. ITS would like to pilot this approach to fully flush out the pros/cons of this approach. The pilot would effect ITS staff only. This would purchase the gear and fiber for this pilot and cover the installation costs as well.