

Justification for adding a new Systems Administrator and Network Engineer to the DO IT operation in fiscal year 2016-2017.

Author: Eddie Alvarado

Recommendation summary:

A new Systems Administrator is needed because IT has taken on or is being asked by the College IT Directors to take on support for systems used at all the Colleges such as EMS, Pay-4-Print and IT Asset Management. IT has tried relying on College System Support Specialist II (SSS II) positions to provide this support, but that presents problems when district-wide work is being done at the College level, when there is turnover among SSS II staff, or because the work involved is beyond the skill set of a particular SSS II. This issue has been discussed with the College IT Directors and they are in agreement that we need more resources in DO IT to properly support these systems in a responsive and sustainable manner.

A new Network Engineer position is needed to increase our focus on ensuring that District wide networks are reliable, secure, fast and big enough to handle the onslaught of very important services such as Facilities' HVAC, Video Surveillance, Door Locks, Emergency Communications and Wi-Fi expansion to name a few. The College IT Directors also support the addition of this position to DO IT.

Recommendation additional background:

As part of the last DO IT REORG, DO IT proposed two additional staff positions that were not approved. With several years having passed since that REORG, DO IT and College IT Directors believe more strongly now that these positions are needed due to the increase demand for new IT systems used District wide.

The 1st additional position would be a Systems Administrator. There are currently 3 Systems Administrators which consists of the following:

- 1 Senior Systems Administrator (Suyun Ding) who supports Storage, Virtualization, Backup systems and is the technical team lead for Systems group.
- 1 Systems Administrator (Dana Tusaw) supports the servers underlying all of our Banner, Data Warehousing and related services.
- 1 Systems Administrator (Patrick Ferree) supports Microsoft backend technologies such Active Directory, Exchange, Office365 and related systems.

We have struggled to effectively support numerous applications used District wide including but not limited to IT asset management and Pay-4-Print. These two applications are currently supported by a SSS II at Cerro Coso Community College. Although this model is currently working OK, it is not scalable and sustainable over the long term because the varying and in some cases inadequate skill sets of the College SSS IIs and because of the inevitable tug between local College responsibilities and District wide responsibilities. The plan would be for DO IT to more effectively support these applications by spreading the responsibility across existing Systems Administrators and the 1 proposed additional Systems Administrator.

The 2nd additional position would be a Network Engineer. There are currently 3 Network Engineers and 1 WAN Engineer:

- 1 Senior Network Engineer (Mike Arnold) works in conjunction with another Network Engineer in the group to support LAN and Security infrastructure and is the team lead in terms of executing projects and troubleshooting problems district wide.
- 1 Network Engineer (Juan Lucero) has primarily responsibility for Wi-Fi networks District wide.

- 1 Network Engineer (Jeremy Horton) provides LAN and Phone Systems Support.
- 1 WAN Engineer (Ron Wilson) provides support for our WAN (Wide Area Network) and Backend Video Conferencing services.

After the Telecommunications Manager (Wayne) retired in Spring 2015, we didn't refill this position but instead added a Network Engineer to take on the management of the new phone systems and to improve our effectiveness in supporting KCCD's Enterprise Network (LAN) infrastructure. Jeremy Horton was hired as a temp into this position in January 2015 and went through the hiring process to become permanent in Summer of 2015. Since Jeremy has joined the team, we have made great strides in standardization and resiliency of our LAN infrastructure and he has come up to speed on the day-to-day management of our VOIP phone system.

The need for an additional Network Engineer is driven by the following factors.

- With the increased focused on Public Safety and Emergency communications, IT needs to engage and play a crucial role in integrating numerous technologies such as Classroom Phones, PA systems, Broadcast Alert Systems (Blackboard Connect), Fire Alarms, Digital Signage, Desktop Notifications and 911 systems. The plan would be for the new Network Engineer to be the primary technical resource for this.
- More and more areas of KCCD's operations rely on IT Network Infrastructure. Systems such as HVAC, Door Locks and Video Surveillance all rely on Networks and Servers to function. This requires increased effort (staff time) and focus to continually increase the capacity, security, reliability and performance of our Enterprise networks.
- As we continue to aggressively expand Wi-Fi networks for student and employee use, this too puts pressure on our Network infrastructure and thus necessitates increased resources to focus on making sure our Enterprise networks run well.
- Finally, with our increased focus on IT security, our Senior Network Engineer Mike Arnold spends more and more time working on IT Security Operations such as maintaining and optimizing our Firewalls and responding to IT Security Alerts. This time requirement will only continue to grow. To support the additional focus on IT Security Operations, there are Network Engineering functions (Optimizing, Troubleshooting) that need to be spread over the other Engineers in the group and the proposed new Network Engineer.

Without adding these two positions, DO IT will to continue to deploy and support projects with over-taxed resources. This model is not sustainable over the long-term and definitely yields mediocre results on our technology investments.