Template for Strategic Investment Funding Proposals, FY 2018
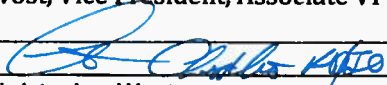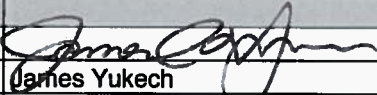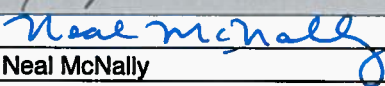*Proposals must be submitted to the YSU Budget Office, no later than February 1, 2018*

Section I: Proposal name and contact information

Title / name of proposal:	Caching for content and application delivery
Contact person name and title:	Christopher Wentz, Information Security Officer
E-mail address:	cawentz@ysu.edu
Phone number:	(330) 941-1552

Section II: Approvals of the appropriate College Dean and/or Division Officer

To certify that the proposal is aligned with the strategic objectives of the department, college or division, signature approvals are required by the appropriate Department Chair or Director, College Dean, and/or area division officer, i.e., Provost, Vice President, Associate VP.

Signature of Dept. Chair or Director	
Name (printed/typed):	Christopher Wentz
Title:	Information Security Officer
Date:	1/19/2018
Signature of Dean (if applicable):	
Name (printed/typed):	James Yukech
Title:	Chief Information Officer
Date:	1/24/18
Signature of Division Officer:	
Name (printed/typed):	Neal McNally
Title:	VP, Finance Business Opperations
Date:	1-25-18

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Section II: Description of the proposal and its alignment with the YSU 2020 Strategic Plan

Please summarize the proposal and specify how it aligns with the YSU 2020 Strategic Plan.

The content and application delivery proposal combines both the Accountability and Sustainability cornerstone along with the Student Success cornerstone.

Accountability and Sustainability - Fiscal Health. With the proliferation of mobile devices and their increased need to maintain Internet connectivity in order to function, providing fast, reliable and capacity-managed networked systems is a must. While purchasing additional throughput will help to address this need, effective management plays an important role as well. By locally caching content and applications the campus we eliminate some of this demand and effectively make more efficient use of the connection and allowing for a less costly monthly charge.

Student Success - Student Experience Content caching allows for a file type or stream to be downloaded from the Internet by a single user, temporarily stored on campus storage, then re-distributed internally across the campus network. This takes place at an increased speed providing the user with a better academic and recreational experience while freeing up bandwidth for other services.

Section III: Shared governance and stakeholder engagement

Was the proposal developed collaboratively and with input from all stakeholders? Please describe the process used to develop your proposal.

The local caching project was developed out of feedback related to Internet experience and load on current infrastructure systems. Members from Information Technology as well as other areas of campus have expressed a concern over the overburdened Internet speed and ultimately a poor experience. As usage logs were review it was decided to put a limited pilot together to determine the feasibility and ease of deployment of such a solution. These logs made it clear that the connection that the campus was using to gather content from the Internet was saturated and had limited capacity to transport additional data. As a proof of concept an Apple caching server was deployed to supply the campus with Apple brand updates. This device was deployed in mid November and has proven to save on average 40-60 Gigabytes of data per day. For comparison1 Gigabyte is about the same as streaming Spotify for 15 hours. Because of this savings all users requesting the same content receive the update or Apple-store application at the speed of the local connection typically 10x faster than pulling it from the Internet. This contributes to a significantly positive user experience. The purpose of this proposal is to expand that same proof of concept to content pulled to the campus. Examples include Google Play items, streaming video such as Netflix and Hulu, news streams, Android phone updates and more. Based on the limited proof of concept we expect to save over 100-200 Gigabytes per day.

Section IV: Return on Investment

If applicable, describe how the proposal may generate new revenue to support related expenses or other strategic initiatives. If there are benefits other than revenue-generation, whether tangible or otherwise, you may also describe those.

The return on investment for this project is reflected in the efficient use of paid Internet throughput. Conceivably, the need for additional bandwidth purchase is reduced, if however additional bandwidth is purchased it would still benefit from the reduced need to download multiple copies of the same data.

Additionally the user experience is enhanced. As a user requests information or data that has already been requested they pull that information locally and a a speed 5x-10x faster than if they were accessing the data directly from the Internet.

Section V: Proposed funding amount requested (NOTE: Available strategic investment funds are one-time dollars left over from the prior fiscal year. Consequently, proposals requiring multi-year funding will require additional consideration.)

Single year funding request:	$40,000.00		
Multi-year funding request (if applicable):	$	No. of years:	

Section VI: Space utilization and/or modification

If applicable, describe any special and/or additional building or space requirements that would be needed to pursue your proposal.

At this time the only needed modification would be the physical placement of the computer hardware needed to house the equipment. This space is currently available.

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Section VII: Personnel costs / additions

If applicable, explain any additional costs associated with the need to add staffing and/or faculty resources required to pursue your proposal.

No additional staffing needs at this time.

Section VIII: Enterprise risk management

If applicable, describe the risk mitigated by your proposal, or the risk elevated if your proposal is not funded.

Risk is mitigated by providing a higher level of service quality and reliability for the user. As the Internet connection becomes saturated the user begins to experience latency, dropped connections, or simply unreliable connections. This symptom becomes systemic across the University as use increases.