



PLAN. INVEST. TRACK.

Fund: SWP Regional Share (40%), Year: 2017-18 Produced: Apr 2, 2018, 8:38 AM PDT



## IEDRC P17 Cloud Based Netlab+ Pilot Project

### Description

**DESCRIPTION:** This proposal is a request to develop and implement a Cloud-Hosted Regional NETLAB+. NETLAB+ is a virtual lab management and scheduling appliance that provides students with the ability to access virtual lab sessions from any location with high-speed internet access. Traditionally it is used across the California Community Colleges for Information Technology and Cyber-security training however, with its custom lab creation tool, it can also be used to create virtual labs for any curriculum requiring access to software based tools including: Automotive, Business, Health, Manufacturing, Transportation and other fields that use computerized applications and/or testing. NETLAB+ cloud hosting helps to defray the actual cost of entry and maintenance. Cloud based deployment will greatly enhance student access to IT and Cyber security labs and training by mitigating distance and time issues. A cloud-based system will allow access for students from any device and provide benefit to every college in the region. Colleges wishing to participate in this project include Barstow College, Chaffey College, College of the Desert, Crafton Hills College, Moreno Valley College, Mt. San Jacinto College, Riverside City College and San Bernardino Valley College. Several of these colleges have physical NetLab+ assets that may be leveraged in a cloud-based system. Virtual networks (VLAB) using the cloud allow completion of a majority of assignments currently conducted in labs using physical equipment. These virtual networks simulate the physical equipment, yet allow for quicker deployment and a wider array of configurations, as no physical layout is required. Cloud services would support students in onsite and remote courses, including those enrolled in both degree and certification programs. A cloud environment could support other programs, such as computer coding, graphic arts, business software, math studies, etc., which rely on software for instruction. The same benefits of reduced per-student-cost, access and system support are realized by migration of these programs. Reduction in costs of maintaining on-site support of these additional programs will result in additional cost savings to the colleges and provide sustainability. Upon successful implementation, access to the cloud-based NetLab+ environment may be extended to high schools in the region, with potential for additional revenue and added sustainability to support the environment.

**INDUSTRY SECTORS:** Information & Communication Technologies (ICT)/Digital Media;

**START DATE:** Mon Jan 01 2018

**END DATE:** Thu Dec 31 2020

**LEAD INSTITUTION:** San Bernardino CCD

**READ THE SWP LEGISLATION:** Yes

**MEETS REQUIREMENTS OF SWP LEGISLATION:** Yes

### WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

There is strong interest and support among faculty for a cloud-based learning environment. Existing on-site equipment cannot support expanding resources to other areas needing technology. A cloud-based system is capable of supporting traffic and workload of a greater student body. Execution of this proposal would be nearly seamless, with only negligible tweaking of lesson plans, operations and resource administration. Information & Communications Technologies (ICT) and digital media industry groups in the Inland Empire/Desert region demonstrate positive projected job growth from 2018 to 2020. The computer systems design and related services industry group had the most jobs in the region in recent years. Employment opportunities for the ICT group is expected to grow 28% in the next few years, adding around 100 jobs by 2020 and having average earnings of more than \$101,000 per year. Significant efficiencies would result from a cloud configuration. At present, software licenses assigned to a specific piece of hardware, which may be in-use, but not using all software licensed to it. With virtualization, licenses are per user, as opposed to individual, pieces of physical equipment. This allows for much greater sharing and utilization of licenses. Consequently, software-licensing costs in cloud environment are between 1/10th and 1/30th of current expenditures for physical labs. Under this proposal, limited deployment allows for the establishment of procedures, formation of advisory teams, further development of curriculum and future decisions to move forward with a broader migration. Implementation also allows for establishment of security policies and permission/privilege hierarchy, crucial to integrity of operations across any future expansion of VLAB services to additional campuses, regions or region-wide. Benefits to the colleges through implementation of this proposal include: • Expanded Course Offerings • Increased Leverage with Vendors • Expedited Deployment of New Courses • Heightened Status as Provider of Current Technology Training • Rapid scalability • 24/7 Access and Maintenance • Large Library of Lab Resources • Simulations on a Larger Scale • Resource Sharing • Lower Cost-Per-Student • Security Isolation

### Contacts

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## Labor Market Information

### ICT/Digital Media Occupations

#### OCCUPATIONS:

15-1122 Information Security Analysts

**REGION:** Inland Empire/Desert

**COUNTY:** San Bernardino, Riverside

#### PROGRAMS:

San Bernardino CCD - Computer Networking (070810)

Moreno Valley College - Computer Networking (070810)

College of the Desert - Computer Networking (070810)

Mt. San Jacinto CCD - Computer Networking (070810)

Riverside City College - Computer Networking (070810)

San Bernardino Valley College - Computer Networking (070810)

Crafton Hills College - Computer Networking (070810)

Barstow CCD - Computer Networking (070810)

**LIVING WAGE ATTAINMENT:** ICT-DigitalMedia.pdf

## Outcomes

### Investment Plan

Develop workgroup to oversee regional coordination Hire Project Director at lead college Prepare RFQ for service provider(s) Begin service Propagate service to participating colleges Review service to verify return on investment. Look for expansion opportunities.

### Occupational Clusters

#### San Bernardino CCD - Computer Networking (070810)

METRIC	BASELINE	BASELINE YEAR
Number of Enrollments	-	2015-16

#### Moreno Valley College - Computer Networking (070810)

METRIC	BASELINE	BASELINE YEAR
Number of Enrollments	-	2015-16
Number of Students Who Got a Degree or Certificate	-	2015-16

#### College Of The Desert - Computer Networking (070810)

METRIC	BASELINE	BASELINE YEAR
Number of Enrollments	-	2015-16
Number of Students Who Got a Degree or Certificate	-	2015-16

#### Mt. San Jacinto CCD - Computer Networking (070810)

METRIC	BASELINE	BASELINE YEAR
Number of Enrollments	83	2016-17
Number of Students Who Got a Degree or Certificate	-	2016-17

#### Riverside City College - Computer Networking (070810)

METRIC	BASELINE	BASELINE YEAR
Number of Enrollments	224	2015-16
Number of Students Who Got a Degree or Certificate	22	2015-16

**San Bernardino Valley College - Computer Networking (070810)**

METRIC	BASELINE	BASELINE YEAR
Number of Enrollments	19	2015-16
Number of Students Who Got a Degree or Certificate	-	2015-16

**Crafton Hills College - Computer Networking (070810)**

METRIC	BASELINE	BASELINE YEAR
Number of Enrollments	-	2015-16

**Barstow CCD - Computer Networking (070810)**

METRIC	BASELINE	BASELINE YEAR
Number of Enrollments	-	2015-16

**Task Force Recommendations**

**Student Success**

2. Improve CTE student progress and outcomes.

**Curriculum**

10. Facilitate curricular portability across institutions.

**Funding**

21. Create a sustained, public outreach campaign to industry, high school students, counselors, parents, faculty, staff, and the community at large to promote career development and attainment and the value of career technical education.

25. Create incentives and streamline processes to maximize public and private investment in support of CTE programs.

**Workplan**

**Risks**

New/Unfamiliar Technology for Staff No Existing Mechanisms for Sharing Resources among Campuses Concurrent Licensing Uncertainty System-Wide Service Interruption vs Local Security Threats Affecting All Campuses Challenges of Coordination among Stakeholders Equality in the scheduling of Access

**RESPONSIBLE PERSON:** Susanne Mata (smata@sbccd.edu)

**LEAD INSTITUTION OR PARTNER:** San Bernardino CCD

**PARTICIPATING INSTITUTIONS:** Barstow College, Chaffey College, College of the Desert, Crafton Hills College, Moreno Valley College, Mt. San Jacinto College, Riverside City College, San Bernardino Valley College

**ACTIVITY TIMEFRAME:** Year 1, Year 2, Year 3

**MAJOR ACTIVITIES:** Seek Faculty & IT Staff involvement Convene Regional Workgroup to oversee regional coordination and set short-term goals Hire Project Director Develop Training Plan Provide Facilitation for Faculty Training on use of Cloud-Based NetLab+. Prepare RFQ for service provider(s) Propagate service to participating colleges Install equipment/start service Provide Faculty for Training Participate in Workgroup and Abide by Principles of Participation Host Cyber Patriot and Ethical Hacking events Sponsor CyberPatriot teams

**MAJOR OUTCOMES:** Get Faculty and IT Staff Involvement Regional workgroup developed and convened to implement goals Project Director Hired Completed Cloud-based NetLab+ Training for Faculty Service/equipment provider(s) selected and contracted Service Propagated to participating colleges Equipment/service Installed/started Faculty Trained Effective participation in Workgroup and Abiding by Principles of Participation Cyber Patriot and Ethical Hacking events hosted and CyberPatriot teams sponsored.

**Budget Breakdown**

<b>San Bernardino CCD</b>	SWP Regional Share (40%)	5000 - Other Operating Expenses and Services	\$372,932
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AY 17-18 Contracted expenses to launch project. Remaining college expenses will be funded beginning with the 2018/2019 fiscal allocation.

<b>Chaffey College</b>	SWP Regional Share (40%)	2000 - Non-Instructional Salaries	\$32,310
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AY 18-19 Project administration

<b>Barstow College</b>	SWP Regional Share (40%)	2000 - Non-Instructional Salaries	\$32,310
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AY 18-19 Project administration

<b>Chaffey College</b>	SWP Regional Share (40%)	3000 - Employee Benefits	\$11,309
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AY 18-19 Project administration benefits

<b>Barstow College</b>	SWP Regional Share (40%)	3000 - Employee Benefits	\$11,309
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AY 18-19 Project administration benefits

<b>College of the Desert</b>	SWP Regional Share (40%)	2000 - Non-Instructional Salaries	\$32,310
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AY 18-19 Project administration

<b>College of the Desert</b>	SWP Regional Share (40%)	3000 - Employee Benefits	\$11,309
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AY 18-19 Project administration benefits

<b>Crafton Hills College</b>	SWP Regional Share (40%)	2000 - Non-Instructional Salaries	\$32,310
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AY 18-19 Project administration

<b>Crafton Hills College</b>	SWP Regional Share (40%)	3000 - Employee Benefits	\$11,309
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AY 18-19 Project administration benefits

<b>Moreno Valley College</b>	SWP Regional Share (40%)	2000 - Non-Instructional Salaries	\$32,310
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AY 18-19 Project administration

<b>Moreno Valley College</b>	SWP Regional Share (40%)	3000 - Employee Benefits	\$11,309
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AY 18-19 Project administration benefits

<b>Mt. San Jacinto College</b>	SWP Regional Share (40%)	2000 - Non-Instructional Salaries	\$32,310
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AY 18-19 Project administration

<b>Mt. San Jacinto College</b>	SWP Regional Share (40%)	3000 - Employee Benefits	\$11,309
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AY 18-19 Project administration benefits

<b>Riverside City College</b>	SWP Regional Share (40%)	2000 - Non-Instructional Salaries	\$32,310
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AY 18-19 Project administration

<b>Riverside City College</b>	SWP Regional Share (40%)	3000 - Employee Benefits	\$11,309
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AY 18-19 Project administration benefits

<b>San Bernardino Valley College</b>	SWP Regional Share (40%)	2000 - Non-Instructional Salaries	\$32,310
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AY 18-19 Project administration

<b>San Bernardino Valley College</b>	SWP Regional Share (40%)	3000 - Employee Benefits	\$11,309
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AY 18-19 Project administration benefits

<b>San Bernardino CCD</b>	SWP Regional Share (40%)	2000 - Non-Instructional Salaries	\$240,000
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AY 18-19 Project director for the region

<b>San Bernardino CCD</b>	SWP Regional Share (40%)	3000 - Employee Benefits	\$96,000
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AY 18-19 Project director benefits

<b>San Bernardino CCD</b>	SWP Regional Share (40%)	4000 - Supplies and Materials	\$6,000
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AY 18-19 Non instructional program supplies and materials

<b>San Bernardino CCD</b>	SWP Regional Share (40%)	5000 - Other Operating Expenses and Services	\$39,449
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AY 18-19 Contracted expenses, Conference, travel and mileage for Project Director

<b>San Bernardino CCD</b>	SWP Regional Share (40%)	6000 - Capital Outlay	\$3,000
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AY 18-19 Capital investment including computer work station for Project Director

## Budget Totals

INSTITUTION	CODE	TOTAL
Barstow College	2000 - Non-Instructional Salaries	\$32,310
Barstow College	3000 - Employee Benefits	\$11,309
	Barstow College Total:	<b>\$43,619</b>
Chaffey College	2000 - Non-Instructional Salaries	\$32,310
Chaffey College	3000 - Employee Benefits	\$11,309
	Chaffey College Total:	<b>\$43,619</b>
College of the Desert	2000 - Non-Instructional Salaries	\$32,310
College of the Desert	3000 - Employee Benefits	\$11,309
	College of the Desert Total:	<b>\$43,619</b>
Crafton Hills College	2000 - Non-Instructional Salaries	\$32,310
Crafton Hills College	3000 - Employee Benefits	\$11,309
	Crafton Hills College Total:	<b>\$43,619</b>
Moreno Valley College	2000 - Non-Instructional Salaries	\$32,310
Moreno Valley College	3000 - Employee Benefits	\$11,309
	Moreno Valley College Total:	<b>\$43,619</b>
Mt. San Jacinto College	2000 - Non-Instructional Salaries	\$32,310
Mt. San Jacinto College	3000 - Employee Benefits	\$11,309
	Mt. San Jacinto College Total:	<b>\$43,619</b>
Riverside City College	2000 - Non-Instructional Salaries	\$32,310
Riverside City College	3000 - Employee Benefits	\$11,309
	Riverside City College Total:	<b>\$43,619</b>
San Bernardino Valley College	2000 - Non-Instructional Salaries	\$32,310
San Bernardino Valley College	3000 - Employee Benefits	\$11,309
	San Bernardino Valley College Total:	<b>\$43,619</b>
San Bernardino CCD	5000 - Other Operating Expenses and Services	\$372,932
San Bernardino CCD	2000 - Non-Instructional Salaries	\$240,000
San Bernardino CCD	3000 - Employee Benefits	\$96,000
San Bernardino CCD	4000 - Supplies and Materials	\$6,000
San Bernardino CCD	5000 - Other Operating Expenses and Services	\$39,449
San Bernardino CCD	6000 - Capital Outlay	\$3,000
	San Bernardino CCD Total:	<b>\$757,381</b>
	TOTAL PROJECT COST:	<b>\$1,106,333</b>



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