

# Campus Computing Infrastructure (CCI) Initiative

## Goals

- Continue campus involvement building upon relationships and work completed through the Administrative Excellence teams (2011-2014)
- Reduce risk through shared, scalable, secure service adoption
- Provide cost-effective IT services through economies of scale
- Collaborate and partner with Campus IT to help meet their missions
- Gain energy and space efficiencies through facility aggregation

## Investments to Date

- \$2.4 M data center electrical, cooling and facility upgrades at Dayton, WARF, Medical Foundation Centennial Building
- \$4 M for scalable storage to support research, instructional and administrative needs
- \$1.6 M for shared, scalable virtual server infrastructure



## CCI Services

Applications

Consulting

Storage

Backup

Data Centers

Servers

**Note:** Services can be consumed a la carte or as bundled, managed services. Flexible services allow us to meet people where they are.

75+ Engagements since January 1<sup>st</sup>, 2015

50+ Groups already using 100 TB of storage

15+ Groups involved in virtualization pilot

## CCI Engagements

## CCI Brokering

- Brokering relationships with the Public Cloud Providers and Off-Site Archiving Solutions
- Identifying secure data sets on campus (like PCI, FISMA/SA) and brokering hosting solutions in existing, secured environments
- Partnering with other campus service providers to thoughtfully get people to the right solutions

# UW-Madison Campus Computing Infrastructure (CCI) Initiative

## CIC Universities Virtual Server Rates Comparison

CIC Universities*	CPU	RAM	Storage	Rate Per Year
University of Iowa	2	4	40	\$1,161.60
University of Chicago	2	4	15	\$1,059.96
University of Michigan	2	4	50	\$776.16
Michigan State University	2	4	40	\$775.00
University of Nebraska-Lincoln	2	4	40	\$750.00
University of Maryland	2	4	45	\$720.00
Pennsylvania State University	2	4	40	\$696.00
<b>University of Wisconsin-Madison</b>	<b>2</b>	<b>4</b>	<b>40</b>	<b>\$600.00</b>
Ohio State University	2	4	40	\$552.00
Indiana University	2	4	40	\$550.00
University of Illinois	2	4	50	\$546.00
Purdue University		4	40	\$140.00
<b>Average Price Per Year**:</b>				<b>\$693.89</b>

\* Each university lists their information a little differently. Focus was on unmanaged virtual server costs.

\*\* Information not found for: University of Minnesota, Northwestern, and Rutgers University.

## Amazon Virtual Server

Amazon Virtual Server*	CPU	RAM	Storage	Rate Per Year**
On-Demand (rates are market variable)	2	4	40	\$678.72
Reserved	2	4	40	\$591.12

\* Reserved is for a 1-year term and On-Demand is a per hour rate. Calculations were done using the public rates as of July 2015.

\*\* Data Transfer Fees not applicable due to use with Internet2





# CCI Offers Shared, Scalable, Bundled IT Services to Campus. What's included in the costs?

Below are some of the key features included in the costs for CCI Virtualization and Storage

<b>Security</b>	<ul style="list-style-type: none"><li>▪ Partnering with Cybersecurity to protect the environment through managed security controls</li><li>▪ Cybersecurity will provide assessments and audits</li></ul>
<b>Consulting</b>	<ul style="list-style-type: none"><li>▪ Service consulting to ensure best fit and smooth transition</li><li>▪ Sharing best practices from previous engagements</li></ul>
<b>Billing &amp; Reporting</b>	<ul style="list-style-type: none"><li>▪ Monthly billing statements</li><li>▪ Reporting capabilities to assist with right-sizing</li></ul>
<b>Design, Planning &amp; Management</b>	<ul style="list-style-type: none"><li>▪ Virtualization architecture that meets UW's guidelines</li><li>▪ Planning future upgrades to meet future needs</li></ul>
<b>Communications</b>	<ul style="list-style-type: none"><li>▪ How-to documentation that is accurate &amp; up to date</li><li>▪ Portal provides service information &amp; a way to get support</li></ul>
<b>Identity &amp; Access Management</b>	<ul style="list-style-type: none"><li>▪ Integration with Campus Active Directory and Manifest</li></ul>
<b>Service Management &amp; Operations</b>	<ul style="list-style-type: none"><li>▪ 24x7 Network Operations Center and services tracked using IT Service Management</li><li>▪ Integration into the Disaster Recovery Plan</li></ul>
<b>Data Management</b>	<ul style="list-style-type: none"><li>▪ Data mirroring for service disaster recovery</li><li>▪ Ability to take snapshots and there is performance &amp; security monitoring</li></ul>
<b>Platform</b>	<ul style="list-style-type: none"><li>▪ Automated self-provisioning</li><li>▪ Hypervisor/Firmware updates taken care of and licensing managed (Note: OS Licenses are billed back)</li></ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"><li>▪ Life cycle management of all hardware and hardware repairs and issues are all managed</li><li>▪ High speed networking</li></ul>
<b>Facilities</b>	<ul style="list-style-type: none"><li>▪ Data center management to provide redundant power &amp; cooling</li><li>▪ Physical security through video monitoring and card access</li></ul>