

# Residence Hall Upgrades Busch Campus Summer 2008



Prepared by  
Network Operations & Architecture  
Telecommunications Division  
Enterprise Systems and Services  
July 7, 2008

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## **Executive Summary**

The Telecommunications Division (TD) regularly assesses the Rutgers University Network (RUNet). Consequently, equipment is identified for replacement when it either no longer supports requirements at the university, or is no longer supported by the manufacturer/vendor. (See: <http://www.td.rutgers.edu/documentation/Papers/>)

As part of this overall “Evergreening” effort, locations are identified for upgrades, in priority order, based on a number of factors, including end of product support (End of Life/EoL), port density, etc.

The Telecommunications Division (TD) was provided with \$285,000 funding in Housing Funds in the summer of 2008 in support of residential hall improvements. Based on the current “Evergreening” schedule, 13 locations received equipment upgrades.

## **Upgrade Details**

The target of this upgrade cycle was to remove unsupported Cisco access devices from various buildings. The locations were completed as follows:

### **New Equipment Purchases:**

*Busch Campus:*

***McCormick:***

Completed: 5/28/2008

Replaced the following devices: (3) 5505 (1) 5506

Replacement equipment: (4) WS-C4506 with (9) 48-port modular Ethernet boards

***Winkler:***

Completed

Replaced the following devices: (1) 5506 and (1) 2980

Replacement equipment: (1) WS-C4506 with (5) 48-port modular Ethernet boards.

***Judson:***

Completed

Replaced the following devices: (1) 5505 and (1) 2980

Replacement equipment: (1) WS-C4506 with (5) 48-port modular Ethernet boards.

***Crosby:***

Completed

Replaced the following devices: (1) 5506 and (1) 2980

Replacement equipment: (1) WS-C4506 with (5) 48-port modular Ethernet boards.

***Thomas:***

Completed

Replaced the following devices: (1) 5505 and (1) 2980

Replacement equipment: (1) WS-C4506 with (5) 48-port modular Ethernet boards.

***Morrow:***

Completed

Replaced the following devices: (1) 5506 and (1) 2980

Replacement equipment: (1) WS-C4506 with (5) 48-port modular Ethernet boards.

***Katzenbach:***

Completed

Replaced the following devices: (2) 5505 and (1) 2948

Replacement equipment: (2) WS-C4506 with (6) 48-port modular Ethernet boards.

***Lippincott:***

Completed

Replaced the following devices: (2) 5505 and (1) 2948

Replacement equipment: (2) WS-C4506 with (6) 48-port modular Ethernet boards.

## **Recovered Equipment:**

### *McCormick:*

Recovered five (5) WS-C5505 and returned to stock as spare equipment. No longer supported by SmartNet; to be used for future trade-in credit.

### *Winkler:*

Recovered one (1) WS-C5505 and one (1) WS-C2980G. Returned to stock as spare equipment. No longer supported by SmartNet; to be used for future trade-in credit.

### *Judson:*

Recovered one (1) WS-C5505 and one (1) WS-C2980G. Returned to stock as spare equipment. No longer supported by SmartNet; to be used for future trade-in credit.

### *Crosby:*

Recovered one (1) WS-C5505 and one (1) WS-C2980G. Returned to stock as spare equipment. No longer supported by SmartNet; to be used for future trade-in credit.

### *Morrow:*

Recovered one (1) WS-C5505 and one (1) WS-C2980G. Returned to stock as spare equipment. No longer supported by SmartNet; to be used for future trade-in credit.

### *Thomas:*

Recovered one (1) WS-C5505 and one (1) WS-C2980G. Returned to stock as spare equipment. No longer supported by SmartNet; to be used for future trade-in credit.

### *Katzenbach:*

Recovered two (2) WS-C5505 and one (1) WS-C2948G-GE-TX. WS-C5505 returned to stock as spare equipment. No longer supported by SmartNet; to be used for future trade-in credit. Recovered WS-C2948G-GE-TX placed in stock for circulation.

### *Lippincott:*

Recovered two (2) WS-C5505 and one (1) WS-C2948G-GE-TX. WS-C5505 returned to stock as spare equipment. No longer supported by SmartNet; to be used for future trade-in credit. Recovered WS-C2948G-GE-TX placed in stock for circulation.

## **Proposed “Next Phase” Residence Hall Upgrades**

TD would propose the next upgrade cycle target the following residence halls:

River Dorms (Frelinghuysen, Hardenberg, Campbell)

BAMM (Barr, Allen, Metzger, Mattia)

## McCormick High-Rise Maintenance Schedule

<b>ID</b>	2473
<b>TITLE</b>	McCormick High-Rise Access Infrastructure Redesign - as01-mccrlo-asb, as01-mccr2fl-asb
<b>STATUS</b>	Scheduled
<b>CAMPUS</b>	Busch
<b>TYPE</b>	Scheduled
<b>SEVERITY</b>	Outage
<b>DESCRIPTION</b>	TD will install the new access switch infrastructure at McCormick High-Rise. No network connectivity will be available to the locations uplinked by affected devices at this time.
<b>AFFECTED DEVICES</b>	as01-mccrlo-asb,as01-mccr2fl-asb
<b>START</b>	05-19-2008 0700
<b>END</b>	05-19-2008 1900

<b>ID</b>	2474
<b>TITLE</b>	McCormick High-Rise Access Infrastructure Redesign - as01-mccr4fl-asb
<b>STATUS</b>	Scheduled
<b>CAMPUS</b>	Busch
<b>TYPE</b>	Scheduled
<b>SEVERITY</b>	Outage
<b>DESCRIPTION</b>	TD will install the new access switch infrastructure at McCormick High-Rise. No network connectivity will be available to the locations uplinked by affected devices at this time.
<b>AFFECTED DEVICES</b>	as01-mccr4fl-asb
<b>START</b>	05-20-2008 0700
<b>END</b>	05-20-2008 1900

<b>ID</b>	2475
<b>TITLE</b>	McCormick High-Rise Access Infrastructure Redesign - as01-mccr8fl-asb
<b>STATUS</b>	Scheduled
<b>CAMPUS</b>	Busch
<b>TYPE</b>	Scheduled
<b>SEVERITY</b>	Outage
<b>DESCRIPTION</b>	TD will install the new access switch infrastructure at McCormick High-Rise. No network connectivity will be available to the locations uplinked by affected devices at this time.
<b>AFFECTED DEVICES</b>	as01-mccr8fl-asb
<b>START</b>	05-21-2008 0700
<b>END</b>	05-21-2008 1900

## Lippincott Hall Maintenance Schedule

<b>ID</b>	2476
<b>TITLE</b>	Access Infrastructure Redesign - Lippincott Hall
<b>STATUS</b>	Scheduled
<b>CAMPUS</b>	Cook
<b>TYPE</b>	Scheduled
<b>SEVERITY</b>	Outage
<b>DESCRIPTION</b>	TD will install the new access switch infrastructure at Lippincott Hall. No network connectivity will be available to the locations at this time.
<b>AFFECTED DEVICES</b>	as01-lippl-ccc,as01-lippr-ccc
<b>START</b>	05-22-2008 0700
<b>END</b>	05-22-2008 1900

## Katzenbach Hall Maintenance Schedule

<b>ID</b>	2477
<b>TITLE</b>	Access Infrastructure Redesign - Katzenbach Hall
<b>STATUS</b>	Scheduled
<b>CAMPUS</b>	Cook
<b>TYPE</b>	Scheduled
<b>SEVERITY</b>	Outage
<b>DESCRIPTION</b>	TD will install the new access switch infrastructure at Katzenbach Hall. No network connectivity will be available to the locations at this time.
<b>AFFECTED DEVICES</b>	as01-katl-ccc,as01-katr-ccc
<b>START</b>	05-28-2008 0700
<b>END</b>	05-28-2008 1900

## Expense Summary

<b>Supplier</b>	<b>PO</b>	<b>Description</b>	<b>Cost</b>	<b>Notes</b>
ePlus	986176	Cisco devices	\$223,329.85	
ePlus	986176	Cisco SmartNet	\$16,336.32	
NI	357535-1099	ISP Cable & Termination	\$4,288	Katzenbach, Lippincott
NI	357535-1101	ISP Cable & Termination	\$10,411.91	McCormicks
<b>TOTAL:</b>			<b>\$254,366.08</b>	<b>*\$30,633.92 remains</b>

e+ Quote (Cisco equipment costs)



Requestor Address  
 Rutgers University  
 110 Frelinghuysen Road  
 Piscataway, NJ 08854  
 Eric Jackson  
 732-445-7512  
 Project Number:  
 Project Name: Dorm UpGrade 2008  
 RFP # 364

Ship To Address  
 Rutgers University  
 Telecommunications Division  
 110 Frelinghuysen Road  
 Hill Center  
 Piscataway, NJ 08854  
 Attn: Eric Jackson/Charlie Robinson

Quoted On 1/22/08  
 Quote Number 20731990

**Hardware**

Qty	Mfg P/N	Mfg Name	Description	List Price	Ext List Price	Dis %	Sell Price	Ext Sell Price
13	WS-C4506	Cisco	Catalyst 4500 Chassis (6-Slot),fan, no p/s	\$4,995.00	\$64,935.00	40.20%	\$2,987.01	\$38,831.13
13	PWR-C45-1400AC	Cisco	Catalyst 4500 1400W AC Power Supply (Data Only)	\$1,495.00	\$19,435.00	40.20%	\$894.01	\$11,622.13
13	CAB-7513AC	Cisco	AC POWER CORD NORTH AMERICA (110V)	\$0.00	\$0.00	40.20%	\$0.00	\$0.00
13	WS-X4013+	Cisco	Catalyst 4500 Supervisor II-Plus (IOS), 2GE,Console(RJ-45)	\$5,995.00	\$77,935.00	40.20%	\$3,585.01	\$46,605.13
13	S45IPBK3-12240SG	Cisco	Cisco CAT4500 IOS IP BASE SSH	\$0.00	\$0.00	40.20%	\$0.00	\$0.00
46	WS-X4548-GB-RJ45	Cisco	Catalyst 4500 Enhanced 48-Port 10/100/1000 Base-T (RJ-45)	\$5,495.00	\$252,770.00	40.20%	\$3,286.01	\$151,156.46

**Cisco products being traded in**

Qty	Mfg P/N	Mfg Name	Description	List Price	Ext List Price	Dis %	Sell Price	Ext Sell Price
6	WS-C2924-XL		switch					
20	WS-C2924-XL-EN		switch					
11	7507		with various boards and rp/s					
6	7504		with various boards and rp/s					
8	4700		routers					
10	2980G		switch					
								-324,885.00

**Smart Nets**

Qty	Mfg P/N	Mfg Name	Description	List Price	Ext List Price	Dis %	Sell Price	Ext Sell Price
13	CON-SNT-WS-C4506	Cisco	8x5xNBD Svc* for Catalyst 4506R Series Modular Switch - First Year	\$1,848.00	\$24,024.00	0.00%	\$0.00	\$0.00
13	CON-SNT-WS-C4506	Cisco	8x5xNBD Svc* for Catalyst 4506R Series Modular Switch - Second Year	\$1,848.00	\$24,024.00	32.00%	\$1,256.64	\$16,336.32

ePlus Contact: Michael Green  
 Phone Number: (212)401-5035  
 Fax Number: (212)401-5135  
 Email: [mgreen@eplus.com](mailto:mgreen@eplus.com)

Product Total \$223,329.85  
 Service Total \$16,336.32

This quote will expire in 30 days.

Rutgers e+ Purchase Order



Purchasing Department  
 Rutgers, The State University of New Jersey  
 ASB III, 3 Rutgers Plaza, 2nd Floor  
 New Brunswick, NJ 08901-8558  
 Phone: 732/932-4370  
 Fax: 732/932-4390  
<http://purchasing.rutgers.edu>

SUPPLIER:  
 ePlus  
 One Penn Plaza  
 Ste 600  
 New York, NY 10119

Attention: Green, M

**PURCHASE ORDER**

Purchase Order No.	Revision	Page
986176	0	1 of 1

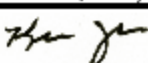
THIS P.O. # MUST APPEAR ON INVOICES, PACKING SLIPS AND ANY CORRESPONDENCE RELATED TO THIS PURCHASE  
 Acceptance of the purchase agreement is expressly contingent on acceptance of all the terms and conditions listed on the Rutgers Purchasing website which are hereby incorporated by reference. The general terms and conditions of purchase of services and merchandise are provided at <http://purchasing.rutgers.edu>. These are an integral part of the purchase agreement and may not be altered or modified.

SHIP TO:  
 Fash, Sharon L  
 Hill Center  
 110 Frelinghuysen Road, Rm 020  
 Piscataway, NJ 08854-8019

DATE OF ORDER / BUYER / TELEPHONE / E-MAIL		REVISED DATE OF ORDER / BUYER / TELEPHONE / E-MAIL	
29-JAN-08	Murray, J		
856/225-6140	JAMMURR@CAMDEN.RUTGERS.EDU		
PAYMENT TERMS	SHIP VIA	F.O.B.	REQUESTER
Net 30		FOB Destination	Fash, Sharon L

No	SHIP No	QTY	UOM	DESCRIPTION	DELIVERY DATE	UNIT PRICE	EXTENSION
1				Pricing in accordance with RFP #364	15-FEB-08		\$ 223,329.85
				RIU Project upgrade dorms - eplus quote dated 1/22/08 # 20731990 - RFP#364 - Smartnet 3030226			
				..... This Purchase Order is subject to P.L. 1975, C.127 (N.J.A.C. 17:27) where applicable and is not valid until the requirements have been met .....			

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY  
 DEPARTMENTAL COPY -  
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<b>INVOICE IN DUPLICATE - BILL TO:</b>	<b>TOTAL</b>	<b>\$ 223,329.85</b>
Rutgers, The State University of New Jersey Accounts Payable 65 Davidson Road, Rm 302 Piscataway, NJ 08854-5802 732/445-2717	SIGNATURE	
		Kevin Lyons, Ph.D. Director, Purchasing Department

## Trade-In Summary

McCormick Upgrade RMA 2631625 Summary

<b>Device Type</b>	<b>Quantity</b>
WS-C2980G	4
CISCO4500	8
WS-C2924-XL-EN	20
CHAS-7505	11
CHAS-7507	6
VIP2-40	26
PA-5EFL	6
PA-POS-OC3SMI	2
PA-FE-FX	16
VIP2-15	7
VIP2-50	5
PA-8E	3
WS-C2924-XL	6
PA-FE-TX	12

# Network Installation Quote - McCormick



Enterprise Systems and Services, Telecommunications Division  
63 Road 1, Livingston Campus  
Piscataway, New Jersey 08854  
Tel: 732 445-6000 \* Fax:732 445 1481 \* sinkiewi@rci.rutgers.edu

December 10, 2007

To: Charlie Robinson  
Hill Center  
Busch

From: Bernard Sinkiewicz

Subject: OIT ESS# 07-0212  
Bldg# - 3877 Mc Cormick Dorms Patching

As requested, the following estimate lists the costs associated with the scope of work required to meet the project objectives that you have discussed with your RUCS/TD project manager, Bernard Sinkiewicz

**Note: This estimate is valid for (30) thirty days from the date of this proposal**

**General scope of work:**

*Provide and install new patch cables in all TC's and ER's in the McCormick Dorm Complex. Includes McCormick (high and low), Judson, Winkler, Crosby, Thomas and Morrow.*

<input type="checkbox"/> Facilities Work	N/A
<input type="checkbox"/> ISP Cable and Termination	<b>\$10,411.91</b>
<input type="checkbox"/> Electronics/Equipment	N/A
<input type="checkbox"/> Connectivity	N/A
<input type="checkbox"/> Voice	N/A
<input type="checkbox"/> OSP Cable and Termination	N/A
<b>Grand Total</b>	<b>\$10,411.91</b>

**PLEASE NOTE:** RUCS/Telecom has many internal supplier sites listed in RIAS and it is imperative that the supplier site listed below be used for this project's Internal Purchase Order.

If you choose to go forward with this plan, you should use the following information to provide us with a RIAS Internal Purchase Order:

Supplier Site: IPO: OIT ESS Network Installation - Item # 382  
Description: Wiring and Cable Plant Installation and Maintenance

Contact Name: Charlie Robinson  
Project Number: 07-0212 Mc Cormick Dorms Patching  
Quote Number: N/A  
Project Manager: Bernard Sinkiewicz

If you have a question about this estimate, please contact your project manager, Bernard Sinkiewicz. He can be reached at 732 445-8000 or by e-mail sinkiewi@rci.rutgers.edu

Thank you.



Purchasing Department  
 Rutgers, The State University of New Jersey  
 ASB III, 3 Rutgers Plaza, 2nd Floor  
 New Brunswick, NJ 08901-8559  
 Phone: 732/932-4370  
 Fax: 732/932-4390  
<http://purchasing.rutgers.edu>

SUPPLIER:  
 IPO: OIT ESS Network Installation

**BLANKET RELEASE**

Release No.	Revision	Page
357535-1101	0	1 of 1

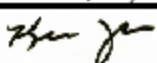
THIS P.O. # MUST APPEAR ON INVOICES, PACKING SLIPS AND ANY CORRESPONDENCE RELATED TO THIS PURCHASE ORDER. Acceptance of the purchase agreement is expressly contingent on acceptance of all the terms and conditions listed on the Rutgers Purchasing website which are hereby incorporated by reference. The general terms and conditions of purchase of services and merchandise are provided at <http://purchasing.rutgers.edu>. These are an integral part of the purchase agreement and may not be altered or modified.

SHIP TO:  
 Fash, Sharon L  
 Hill Center  
 110 Frelinghuysen Road, Rm 020  
 Piscataway, NJ 08854-8019

DATE OF ORDER / BUYER / TELEPHONE / E-MAIL		REVISED DATE OF ORDER / BUYER / TELEPHONE / E-MAIL	
14-MAR-08	Salowe, M 732/445-4692 MSALOWE@RCI.RUTGERS.EDU		
PAYMENT TERMS	SHIP VIA	F.O.B.	REQUESTER
Immediate			Fash, Sharon L

No	SHIP No	QTY	UOM	DESCRIPTION	DELIVERY DATE	UNIT PRICE	EXTENSION
1				Blanket Agreement Release			
	1	0,411.91	Each	Wiring and Cable Plant Installation and Maintenance Contact Name=Charlie Robinson Project Number=07-0212 Quote Number=N/A Project Manager=Bernard Sinkiewicz	26-MAR-08	1	10,411.91

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<b>INVOICE IN DUPLICATE - BILL TO:</b>	<b>TOTAL</b>	<b>\$ 10,411.91</b>
Rutgers, The State University of New Jersey Accounts Payable 65 Davidson Road, Rm 302 Piscataway, NJ 08854-5802 732/445-2717	SIGNATURE	
		Kevin Lyons, Ph.D. Director, Purchasing Department

# Network Installation Quote – Lippincott & Katzenbach



Enterprise Systems and Services, Telecommunications Division  
63 Road 1, Livingston Campus  
Piscataway, New Jersey 08854  
Tel: 732 445-6000 \* Fax:732 445 1481 \* sinkiewi@rci.rutgers.edu

January 16, 2008

To: Charlie Robinson  
Hill Ctr  
Busch

From: Bernard Sinkiewicz

Subject: OIT ESS# 08-0010  
Bldg# - na Lippencott/ Katzenbach

As requested, the following estimate lists the costs associated with the scope of work required to meet the project objectives that you have discussed with your RUCS/TD project manager.

Bernard Sinkiewicz

**Note: This estimate is valid for (30) thirty days from the date of this proposal**

**General scope of work:**

*Provide and install all necessary patch cords to accommodate new swithes in the TC's for both buildings.*

<input type="checkbox"/> Facilities Work	N/A
<input type="checkbox"/> ISP Cable and Termination	\$4,288.20
<input type="checkbox"/> Electronics/Equipment	N/A
<input type="checkbox"/> Connectivity	N/A
<input type="checkbox"/> Voice	N/A
<input type="checkbox"/> OSP Cable and Termination	N/A
<b>Grand Total</b>	<b>\$4,288.20</b>

**PLEASE NOTE:** RUCS/Telecom has many internal supplier sites listed in RIAS and it is imperative that the supplier site listed below be used for this project's Internal Purchase Order.

If you choose to go forward with this plan, you should use the following information to provide us with a RIAS Internal Purchase Order:

Supplier Site: IPO: OIT ESS Network Installation - Item # 382  
Description: Wiring and Cable Plant Installation and Maintenance

Contact Name: Charlie Robinson  
Project Number: 08-0010 Lippencott/ Katzenbach  
Quote Number: N/A  
Project Manager: Bernard Sinkiewicz

If you have a question about this estimate, please contact your project manager, Bernard Sinkiewicz. He can be reached at 732 445-8000 or by e-mail sinkiewi@rci.rutgers.edu

Thank you.



Purchasing Department  
 Rutgers, The State University of New Jersey  
 ASB III, 3 Rutgers Plaza, 2nd Floor  
 New Brunswick, NJ 08901-8559  
 Phone: 732/932-4370  
 Fax: 732/932-4390  
 http://purchasing.rutgers.edu

SUPPLIER:  
 IPO: OIT ESS Network Installation

**BLANKET RELEASE**

Release No.	Revision	Page
357535-1099	0	1 of 1

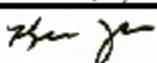
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 Hill Center  
 110 Frelinghuysen Road, Rm 020  
 Piscataway, NJ 08854-8019

DATE OF ORDER / BUYER / TELEPHONE / E-MAIL		REVISED DATE OF ORDER / BUYER / TELEPHONE / E-MAIL	
11-MAR-08 732/445-4692 Salowe, M MSALOWE@RCI.RUTGERS.EDU			
PAYMENT TERMS	SHIP VIA	F.O.B.	REQUESTER
Immediate			Fash, Sharon L

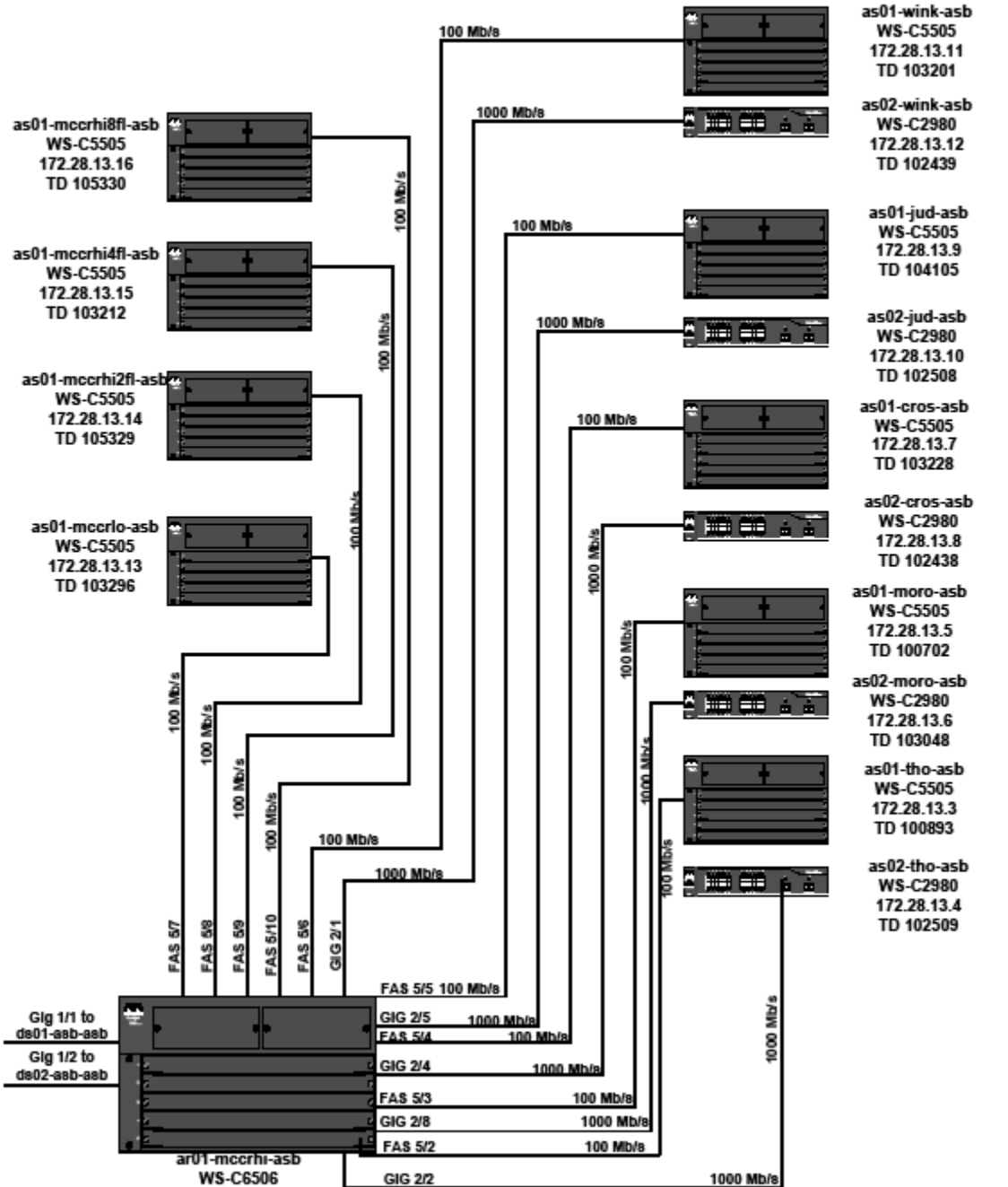
No	SHIP No	QTY	UOM	DESCRIPTION	DELIVERY DATE	UNIT PRICE	EXTENSION
1				Blanket Agreement Release			
	1	4,288.2	Each	Wiring and Cable Plant Installation and Maintenance Contact Name=Charlie Robinson Project Number=08-0010 Quote Number=N/A Project Manager=Bernard Sinkiewicz	26-MAR-08	1	4,288.20

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<b>INVOICE IN DUPLICATE - BILL TO:</b>	<b>TOTAL</b>	<b>\$ 4,288.20</b>
Rutgers, The State University of New Jersey Accounts Payable 65 Davidson Road, Rm 302 Piscataway, NJ 08854-5802 732/445-2717	SIGNATURE	
		Kevin Lyons, Ph.D. Director, Purchasing Department

# Network Diagrams – McCormick “Before”

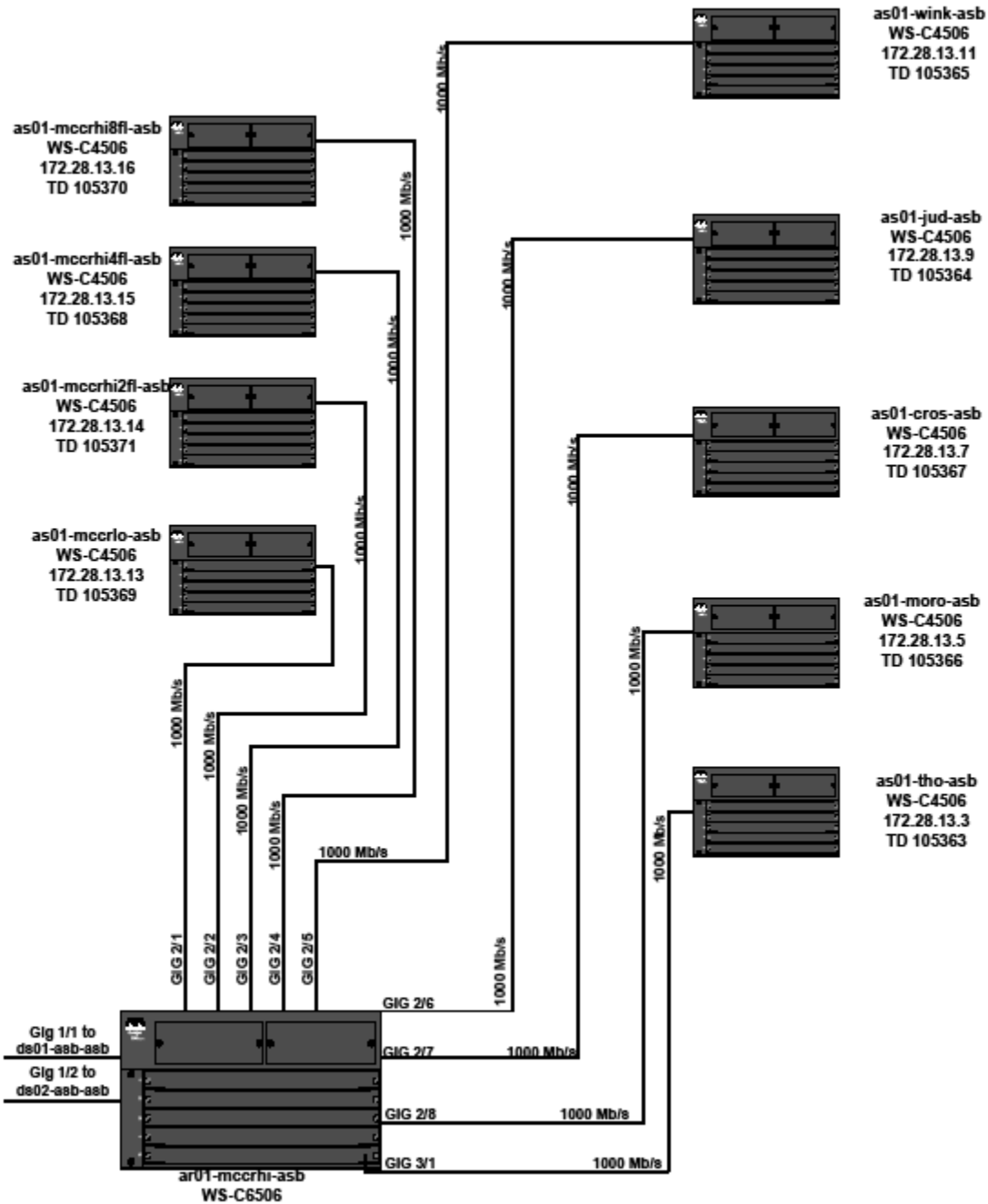
McCormick, Winkler, Judson, Crosby, Thomas, and Morrow  
 Network Device Infrastructure Map  
 (Before)



Christopher Faas 2/20/2008

# Network Diagrams – McCormick “After”

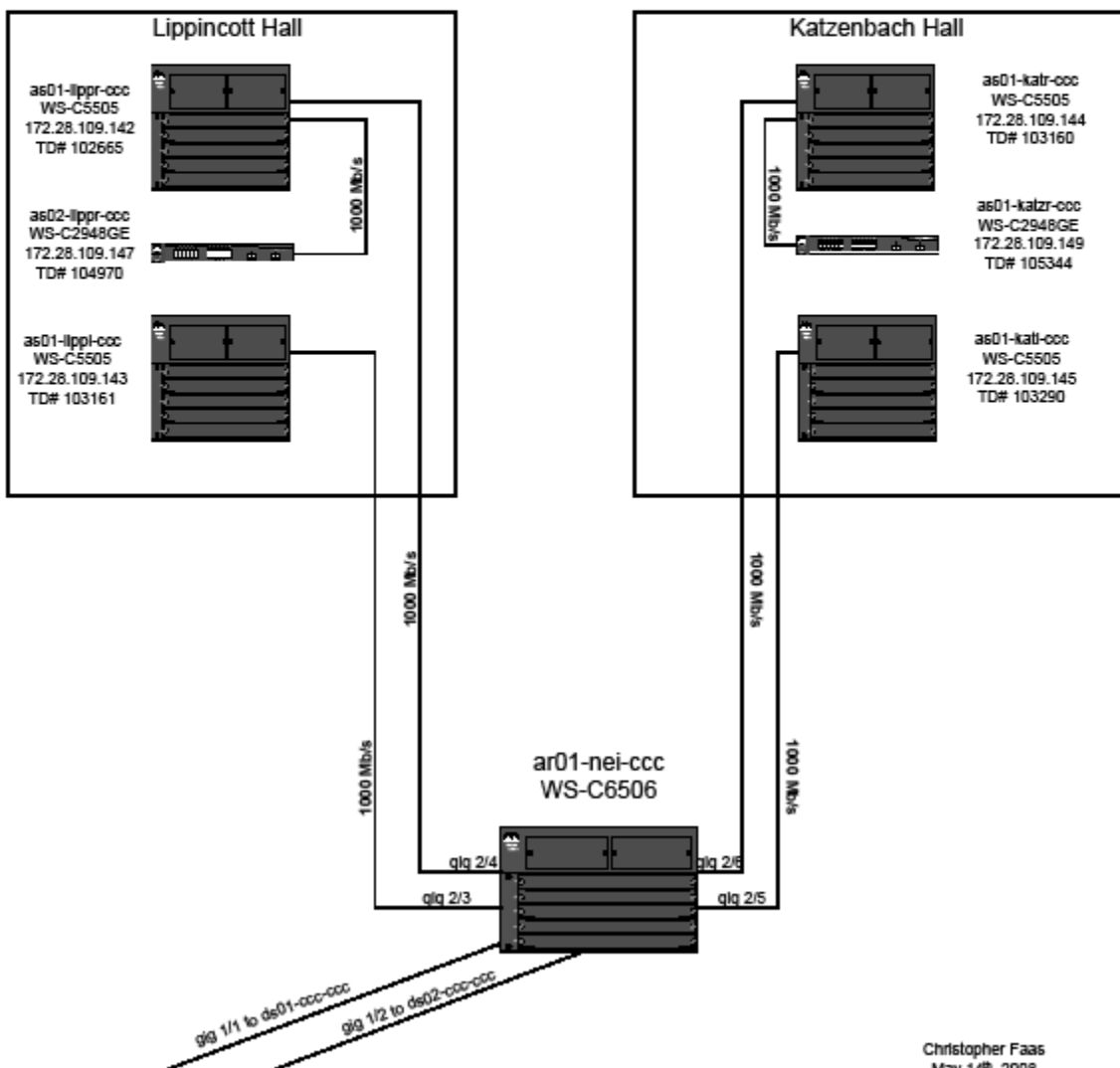
McCormick, Winkler, Judson, Crosby, Thomas, and Morrow  
Network Device Infrastructure Map  
(After)



Christopher Faas 2/20/2008

# Network Diagrams – Lippincott & Katzenbach “Before”

## Lippincott and Katzenbach Residence Halls Before Network Infrastructure Upgrade



Christopher Faas  
May 14<sup>th</sup>, 2008

# Network Diagrams – Lippincott & Katzenbach “After”

## Lippincott and Katzenbach Residence Halls After Network Infrastructure Upgrade

