

North Dakota State Board of Higher Education



Higher Education Committee

A photograph of a person in a white shirt and dark pants climbing a massive, towering stack of brown, aged papers or documents. The stack is so high it reaches the top of the frame, and the person is positioned near the base, looking up at the sheer volume of paper. The background is a clear blue sky.

SLDS & Student Unit Record

Building a Cost-Effective IT System

May 15, 2012

State Longitudinal Data System

- NDUS is a full participant
- Chancellor is a member of the Steering Committee
- NDUS CIO is a member of the Executive Committee
- Working closely with ITD and DPI on data needs

State Longitudinal Data System

- Coordinate identifiers on records of both DPI and NDUS
- Data Definitions are consistent and data is accessible and replicable
- Working with ITD to expand data holdings in the SLDS

What is a Student Unit Record?

- It is an individual record for each student enrolled in an educational institution at a given point in time
- As defined by the Lumina Foundation, one of the ten essential elements is to link individual student records from secondary schools to higher education systems in a straightforward route.
- Allows for longitudinal information about student progression and how to improve it.
- Data must have common definitions, be consistent and information must be replicable

What is a Student Unit Record?

- SBHE is establishing a new policy to address the importance of the Data Element Dictionary and need for consistent data.
- NDUS has been capturing a consistent set of enrollment information since Spring Semester 2007.
- This longitudinal data consists of several distinct areas.

What is a Student Unit Record?

- Demographic data (name, DOB, NDUS ID, K-12 ID, county of origin, state of origin, etc)
- Academic Background (high school attended, transfer college, ACT score, other placement scores, etc)
- Enrollment Status (currently enrolled, full-time/part-time, etc.)
- Academic Attainment (GPA, Degree, Major, etc)
- This data is captured at fourth week reporting and end of term.

Use of the Student Unit Record

- Enrollment Reporting
- Graduation and Retention rates
- Transfer and Multiple Enrollments
- Feed to SLDS for cross-agency reporting
- Developmental/Remedial Education
- Distance Education participation

Use of the Student Unit Record

- Issues and Barriers
 - Data Quality
 - Inadequate staffing to effectively conduct research and analysis of data. Turn data into information for effective governance and accountability.
 - FERPA and Privacy Issues
 - Data Consistency and Replicability

What's Next and Recommendations

- Continue expanding data sharing in SLDS as required for cross-agency reporting
- NDUS will continue to improve the quality, consistency, and replicability of its data (data policy, edits,...)
- Make data more readily accessible for analysis at both the System and institutional level.
- Seek additional support for data research analysts to interpret data leading to improved NDUS performance, accountability,

Questions?

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Information Technology Budget

Building a Cost-Effective IT System

May 15, 2012

System Information Technology Systems

- SITS provides services to all institutions and the System Office
- Funded through appropriations, ConnectND student fee, and cost recovery charges to institutions for a few systems and some software.
- Examples of cost recovery include 50/50 split for Microsoft Campus agreement, TouchNet payment gateway, packaged software (SPSS, Adobe, etc.)

SITS Biennial Budget Changes

	Appropriated			Non-Appropriated	Total
	General Fund	Special Funds	Total	Other	All Funds
05-07 Adj. Appropriation	\$20,607,093		\$20,607,093	\$15,738,305	\$36,345,398
07-09 Adj. Appropriation	\$28,703,293	\$2,773,800	\$31,477,093	\$15,618,694	\$47,095,787
\$ Incr/Decr over 05-07	\$8,096,200	\$2,773,800	\$10,870,000	(\$119,611)	\$10,750,389
09-11 Adj. Appropriation	\$29,540,054	\$1,029,831	\$30,569,885	\$15,060,112	\$45,629,997
\$ Incr/Decr over 07-09	\$836,761	(\$1,743,969)	(\$907,208)	(\$558,582)	(\$1,465,790)
11-13 Appropriation	\$35,467,230	\$539,437	\$36,006,667	\$15,441,752	\$51,448,419
\$ Incr/Decr over 09-11	\$5,927,176	(\$490,394)	\$5,436,782	\$381,640	\$5,818,422
				<i>11-13 Estimate</i>	

Breakdown of 11-13 Appropriation Increase

- Total Appropriations Increase \$5,776,629
 - Salaries and Benefits \$2,249,629
 - Northern Tier Operations \$1,870,000
 - StateNet Upgrades \$1,006,000
 - ITD ConnectND Upgrades \$ 651,000
 - ConnectND PEPP Project \$ 616,000

Breakdown of 11-13 Appropriation Increase

- Funding was not provided for any operational increases for inflation or growth for the biennium.
 - Increases to date in contracts and services total \$510,231.

SITS Biennial Budget Changes

History of FTE Positions

Biennium	SITS		UND		NDSU		Total
	Appropriated	Non-Appr.	Appropriated	Non-Appr.	Appropriated	Non-Appr.	
05-07	40	25	23.5	5	20.5	1	115
07-09	48.5	26.5	26	4	20	1	126
09-11	57.5	20.5	26	4	20	0	128
11-13	59.5	20.5	25.5	2	18	0	125.5

- Notes
 - 11.5 positions were added for ConnectND in 07-09
 - Six positions were shifted from Bank of ND Funding to Oil Trust Funds in 09-11
 - Three Help Desk positions were phased out in 11-13

Challenges and Considerations

- Maximizing Efficiencies Initiative of the SBHE
 - lecture capture software
 - learning management systems
 - unified communications
 - electronic workflow of administrative tasks
 - document imaging
 - further integration of systems and services

What is a Student Unit Record?

- Joint IT Facility
 - Finding further efficiencies through consolidation of services to meet NDUS funding obligations
- Flexibility in use of funding to strategically address IT services

Questions?



Budget History
System Information Technology
Services
Prepared By Randall Thursby
Chief Information Officer

System Information Technology Services

Budget History

Prepared for Legislative Higher Education Interim Committee

May 15, 2012

Overview

The information contained in this document is intended to provide a snapshot of the budget history of the System Information Technology Services (SITS) and an explanation of the changes. Also included are the System Information Technology Services NDUS legislative guide pages as background on the activities and services of the office.

Some key points for consideration are:

- The 07-09 biennial budget reflects a substantial increase thanks to the funding provided by the governor and the legislature to address critical problems in the ConnectND system including the addition of 11.5 FTE positions from appropriated funds. A total of only thirteen positions have been added overall since 05-07.
- The 09-11 biennial budget reflects an overall decrease due to the expiration of one-time funds that were provided in conjunction with the ConnectND improvement plan.
- SITS provides support through the technology pool to all eleven North Dakota University System institutions. Portions of these services are provided by The University of North Dakota and North Dakota State University through service level agreements (SLA), which began with the FY09-11 biennium. The services provided by NDSU and UND were, until the past few years, known as the Higher Education Computer Network (HECN) services.
- In the last biennium all SITS staff were consolidated into the budget at NDSU so that all employees receive the same benefits, and follow the same personnel and salary increase guidelines. Previously managers had personnel under budgets at two different institutions that required different processes based on the personnel policy and salary guideline differences. Currently, the personnel processes are provided by NDSU through a SLA.
- Significant improvement to services have occurred outside ConnectND, which have been accomplished by directing resources from lower priority activities to higher priority activities, operating more efficiently, and leveraging the talent at the institutions through committee and pilot projects. Some of these improvements will be highlighted later.
- We are continuing to explore and plan for consolidation and efficiency in technology operations. Key areas being reviewed are: telecommunications; learning management systems; virtualized servers and desktop support; document imaging; and identity management.

State Allocation Changes

07-09 Appropriation Increase \$10,870,001

<p>Parity Increase \$2,096,201</p>	<ul style="list-style-type: none"> • Salary and Benefit increases for existing staff (5%/5%) • Operating Expense adjustment for inflation • \$420,000 of the parity funds was handled as one-time funding
<p>Northern Tier Infrastructure (One-Time) \$2,773,800</p>	<ul style="list-style-type: none"> • One-time funding in the 07-09 biennial budget for Northern Tier Infrastructure, the high speed research network used by UND and NDSU, costs from the Permanent Oil Trust Funds.
<p>ConnectND Support (One-Time) \$2,300,000</p>	<ul style="list-style-type: none"> • This was one-time funding in the 07-09 biennial budget to improve the infrastructure and operations of ConnectND.
<p>ConnectND Support \$3,700,000</p>	<ul style="list-style-type: none"> • Increase in base funding to correct and improve ConnectND systems as outlined to the legislature • Provided for 11.5 FTE new positions • Provided for increased hardware & software maintenance expenses

- Thanks to the funding provided by the legislature, the NDUS was able to stabilize and improve ConnectND services in accordance with the recommendations made to the SBHE, Governor and Legislature.
- ConnectND Student Fee of \$81 has not been increased since 2006.

State Allocation Changes

09-11 Appropriation Decrease (\$907,000)

Parity Increase \$2,306,255	<ul style="list-style-type: none"> • Salary and Benefit increases (5%/5%) • Operating Expense adjustments
Transfer of Positions Previously funded by Student Loans - Bank of North Dakota \$1,020,600	<ul style="list-style-type: none"> • New federal regulations related to student loans forced Student Loans of North Dakota to cease providing ConnectND support for 6.0 FTE positions.. Positions shifted to appropriated funds (Student Loan Trust Fund)
Northern Tier Infrastructure (\$2,773,800)	<ul style="list-style-type: none"> • Removed one-time funding in the 07-09 biennial budget for Northern Tier infrastructure. Northern Tier is the high speed research network that is used primarily by UND and NDSU.
ConnectND Support (\$2,300,000)	<ul style="list-style-type: none"> • Removed one-time funding in the 07-09 biennial budget to improve the infrastructure and operation of ConnectND.
Common Information System Pool Parity Funding (\$420,000)	<ul style="list-style-type: none"> • Removed one-time funding provided in the 07-09 biennial budget. The \$420,000 was added back as part of the General Fund increase for 09-11.
Transfer Interactive Video Network K-12 activity to ITD (\$300,110)	<ul style="list-style-type: none"> • The responsibility for K-12 two-way video activities was transferred to ITD. Two FTE positions and associated operating expenses were removed from the NDUS and transferred to ITD.
STAGEnet Bandwidth and Operation Improvements \$1,220,000	<ul style="list-style-type: none"> • NDUS share of improvements to StageNet backbone. • Increased bandwidth to VCSU, DSU, WSC, DCB, NDSCS, MiSU, NDSU, UND. • Increased cost for Internet1 Services from ITD.
Transfer of System Office data analysis positions \$339,855	<ul style="list-style-type: none"> • Two positions were transferred to SITS to support data analysis and information requirements from the NDUS data warehouse once the external related activities of FINDET were moved to the Statewide Longitudinal Data System.

- Funding decrease is a result of the removal of one-time funds.

State Allocation Changes

Appropriation Increase \$5,776,629

Salaries and Benefits \$2,249,629	<ul style="list-style-type: none"> • Salary and Benefit increases • No Increase for operating expenses
Northern Tier Operations \$1,870,000	<ul style="list-style-type: none"> • New funding provided to cover the operational costs of the Northern Tier Network for Research and Education primarily for NDSU and UND.
StageNET Upgrades \$1,006,000	<ul style="list-style-type: none"> • Increase in funding to cover the NDUS share of the StageNET backbone upgrade, estimated bandwidth increases to the institutions, and an increase in the NDUS share of the Internet1 costs. (Figures provided by ITD)
ITD ConnectND Upgrades \$651,000	<ul style="list-style-type: none"> • Estimated Cost provided by ITD for the NDUS share of the additional processor and disk storage equipment needed to support the Finance and HRMS Systems shared with the State.
ConnectND Database Upgrade \$616,000	<ul style="list-style-type: none"> • Added by the Governor in his executive recommendation. It is to provide for database operational changes to the ConnectND Finance and HRMS systems hosted by ITD for improved performance and long-term stability.

- Funding was **NOT** provided for any operational increases for on-going operations in the Governor's recommended budget and this, along with the continued increase in software and hardware maintenance costs, will have an impact on the services provided to the NDUS.
- The estimated increase in operational costs for ongoing activities for the 11-13 biennium provided by ITD that are not associated with the items above is estimated at \$240,000. The figure provided by ITD is to cover the increased cost for personnel, software and hardware maintenance increases, etc.

NDUS had increased costs from hardware and software vendors for maintenance, which had be absorbed along with the increased costs from ITD. The overall estimate based on contracts to date is

and \$512,000. This necessitated some changes in services and will impact current position funding levels and services from NDSU and UND.

History of FTE Positions

Biennium	SITS		UND		NDSU		Total
	Appropriated	Non-Appr.	Appropriated	Non-Appr.	Appropriated	Non-Appr.	
05-07	40	25	23.5	5	20.5	1	115
07-09	48.5	26.5	26	4	20	1	126
09-11	57.5	20.5	26	4	20	0	128
11-13	59.5	20.5	25.5	2	18	0	125.5

07-09 Biennium (Increase of 11 FTE positions)

- 11.5 new positions were authorized and funded to address needs in ConnectND.
 - The business analysts and developers were provided for under the SITS appropriation (9.0 FTE)
 - The data center positions were provided to UND (2.5 FTE)
- One .5 FTE position was moved from NDSU to the SITS budget. This position was the primary liaison for interaction with the institutions on services from HECN-S (NDSU). Within SITS, the role of the position was refined and made a 1.0 FTE position that not only retained coordination responsibilities for services from HECN-S but also takes responsibility for overall academic, research, and learning technology efforts.
- A position within the On-line Dakota Information Network (ODIN) library services unit, funded through local funds from member libraries, was moved from the data center budget at UND directly under the ODIN budget within SITS.
- Two positions (2.0 FTE) were transferred to ITD as part of the shift in K-12 video support from the NDUS SITS to ITD.
- Added 1.0 FTE position, half from ConnectND appropriated funds and half from local ODIN funds, to provide an administrative position for ConnectND and ODIN support in Grand Forks. Previously, there was no office support for the twenty-one staff members located in Leonard Hall.

09-11 Biennium (Increase of 2.0 FTE positions)

- A total of 6.0 FTE, previously funded through Student Loans of North Dakota (division of Bank of North Dakota), were replaced by funding from the Student Loan Trust Fund. This is a shift from non-appropriated to appropriated funds.
- Two positions associated with the FINDET office were transferred from the System Office budget to SITS to begin shifting their responsibilities for data analysis from FINDET, for internal and external purposes, to the NDUS data warehouse as it became operational. The external FINDET activities were shifted to the State Longitudinal Data System.

- One position, the NDUS Information Technology Security Officer, was moved from the NDSU budget to the SITS budget. NDSU has its own IT security officer. Bonnie Neas, VP for Information Services at NDSU, and Randall Thursby, NDUS CIO, agreed that moving the position to SITS would more appropriately align the position with its system-wide responsibilities.

11-13 Biennium

- Three Help Desk Support Positions were phased out during the biennium and one position shifted from NDSU to SITS to serve as the Manager of Customer Service & Quality Assurance. Approximately .5 FTE was shifted and .5 FTE covered from operational funds to add a Desktop Support Position for SITS.

Change in FTE Positions 2007-2013

<i>+ Additions +</i>			VS	<i>- Reductions -</i>		
Item	Unit	FTE		Item	Unit	FTE
Positions for ConnectND	SITS	9				
Positions for ConnectND	UND	2.5				
Exec Dir Acad, Res, & Learning Tech	SITS	1		HECN-S Coordinator	NDSU	.5
ODIN Library Support	SITS	1		ODIN Library Support	UND	1
Administrative Assistant (GF)	SITS	1				
				Transfer Video Support K-12 to ITD	SITS	2
Data Analysis Positions (FINDET)	SITS	2				
NDUS IT Security Officer	SITS	1		NDUS IT Security Officer	NDSU	1
Desktop and System Support	SITS	1		Desktop and System Support	UND/ NDSU	.5
Customer Support & Quality Assurance	SITS	1		Help Desk Support	UND/ NDSU	4.0
Total		19.5		Total		9.0

A total of thirteen new positions have been added to SITS since 05-07. Of those, 11.5 FTE were as a result of the ConnectND improvements funded by the legislature in 2007 and two were from moving positions to more strategically align them with the NDUS data warehouse rather than separate FINDET data collection and reporting systems. Another 4.0 FTE were reallocated in conjunction with discussions with NDSU and UND. Two positions were transferred to ITD to better align services in support of K-12 two-way video and three help desk positions were eliminated when the help desk services were reconfigured.

Current FTE Positions by Function	
Unit	FTE
SITS	
Office of the CIO	3.0
Acad, Res, & Learn Tech	4.0
Advanced Learning Tech	11.5
ODIN (Library Services)	8.5
CND - Exec Dir	1.0
CND - Student System	30.0
CND - Financials	9.0
CND - HRMS	10.0
CND - Security	3.0
Total	79.5
UND	27.5
NDSU	18.0
Total	125.5

Future Critical Issues

The funding and the pending construction of the shared IT facility for NDUS and UND staffs, operations, and data center are extremely important. This facility, including the data center, has an impact on all NDUS institutions and the System Office. Should a major failure at the current data center occur, almost all NDUS operations would be impacted as many of the applications, including ConnectND, are hosted from this location. The final plan approved by the legislature, SBHE, and the legislative budget section calls for the NDUS to provide significant funding for the project through operating efficiencies. This will be challenging, but can be achieved if the principles approved by the SBHE along with the final approval of the project are followed.

The need for additional bandwidth to support continued growth in on-line courses, student communications, access to rich video content, high definition video classrooms, expanded use of

video services in lieu of travel to meetings, and a growing dependence in offsite service delivery is essential. This is impacting not only the NDUS but K-12 and state agencies. The state ITD has done an excellent job of continuing to provide improved bandwidth and service while maintaining a reasonable cost for those increased services.

Adapting to the rapidly changing technology environment by incorporating mobile devices such as smartphones, iPad tablet devices, social media, and new vendors and service offerings. Strategic planning at a System level is essential to ensure interoperability of systems at the lowest cost of operation.

There is a need for flexibility in funding allocations to respond to the rapidly changing technology environments.