



All About the Network: Connections, Services, Directions GPN Annual Conference

Great Plains Network

6/03/2010



FY10 Accomplishments

New 10G circuits

I2 – Chicago (3/15/10)

ESnet Peering (4/21/10)

New 1G Circuit

GpENI / ProtoGENI Connection (3/4/10)

Router Maintenance

IOS upgraded (3/30/10)

Utilization - 10G (KC)



Utilization - 10G (Chicago)



Utilization - 10G ESnet Peering



Utilization - 10G Esnet (OneNet/DUESEL)



GPN 2010 Network Planning Project

Build a plan that will ensure that GPN continues to meet the needs of its constituents in future years

Following is draft summary report that will be finalized in the coming weeks – your input is appreciated

Bandwidth Projections

	2010 R&E	2011 R&E	2012 R&E
KanRen	275	325	375
Iowa State	150	210	300
MoreNet	125	188	281
UNL	3000	4000	5320
Oklahoma	400	800	1600
Arkansas	100	200	300
South Dakota	500	1000	2000
Total	4550	6723	10176
	2010 CPS	2011 CPS	2012 CPS
KanRen	1500	800	0
Iowa State	1300	1800	2500
MoreNet	3000	4000	6000
UNL	1000	600	1000
Oklahoma	*1800	2160	2592
Arkansas	300	600	1500
South Dakota	0	0	0
Total	7100	9960	13592
	2010 ION	2011 ION	2012 ION
KanRen	1000	2000	10000
Iowa State	0	0	0
MoreNet	0	0	0
UNL	3000	4000	10000
Oklahoma	1000	2000	3000
Arkansas	0	0	0
South Dakota			
Total	5000	8000	23000

* 700 + 1100 after TR and CPS merge

GPN Network 'Philosophy'

GPN should be ready to implement new services as they become available. We also need to balance current investments to be 'ready' – quick to respond

but don't buy any earlier than needed

Decisions should be 'value' based with a solid cost/benefit analysis

i.e. buy the chassis, but don't populate until needed

Network business model will change as a result

Current Equipment Baseline

Current equipment good for next 12- 24 months

Based on bandwidth projections, ports, services

Upgrade path available in December to significantly expand bandwidth & ports

Keep current equipment in place until need to upgrade/replace

In the Interim

Implement a full GPN Peering Exchange so that all GPN internal traffic stays off of our external links

Make changes to how current equipment is configured to increase 'value' to membership (i.e. enhanced services, redundancy, failover, etc.)

Survey other RONS to help inform decisions

Other Recommendations

ION –Make the service available to GPN Connectors

Implement through-put testing tools

Explore cost/benefit of a GPN fiber connection from L3 to Grand (Carrier Hotel) to take advantage of services available in Grand Building

Implement other peering opportunities; ~~shared I1 buys, etc. when 'value-add' and solid cost-benefit~~

Network Fiscal Reserves

Implement an operating reserve to provide continuity of services if there is an unexpected loss of revenue

Implement an equipment reserve plan to fund a major 'fork-lift' upgrade likely needed in next 24 months

Revise/Create Needed Network Policies & Guidelines – Go Light Approach

Review AUP wrt networking use

Security – currently member's responsibility
-- under what conditions can GPN NOC shut down a member's connection?

ION reservation policy – how much bandwidth can be reserved for what length of time

Should each GPN Connector be 'guaranteed' a minimum amount of bandwidth?

Next Steps

August: Final report presented to the GPN Network Program Committee for approval, and then to the GPN Executive Committee

August 15: FY11 implementation plan will be developed

Remainder of FY11: Implement the plan

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