



Developing and Supporting Internet2 NET+ Services

Cyber-infrastructure for Astronomy

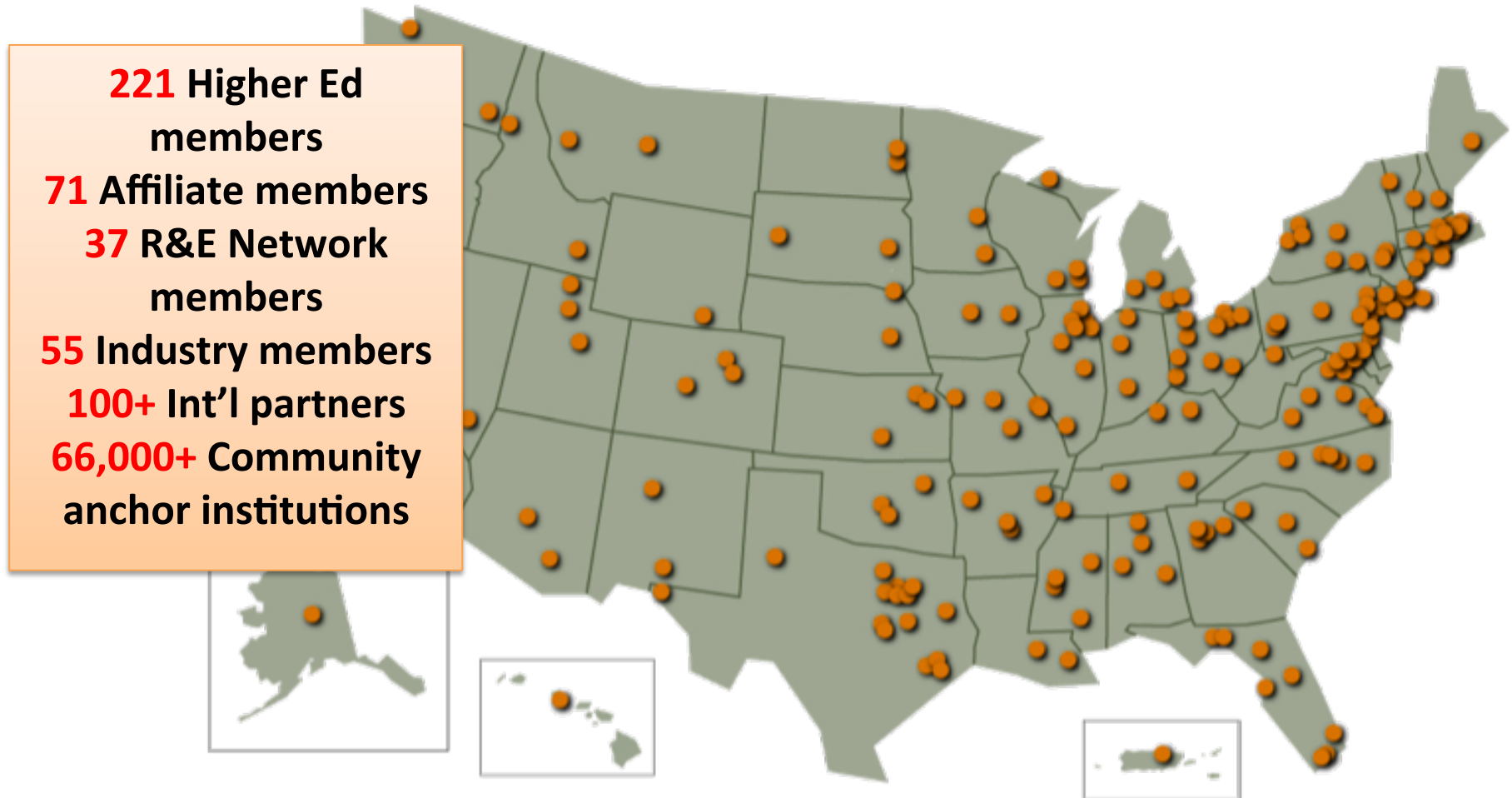
South American Astronomy Coordination Committee (SAACC)

March 25th , 2013

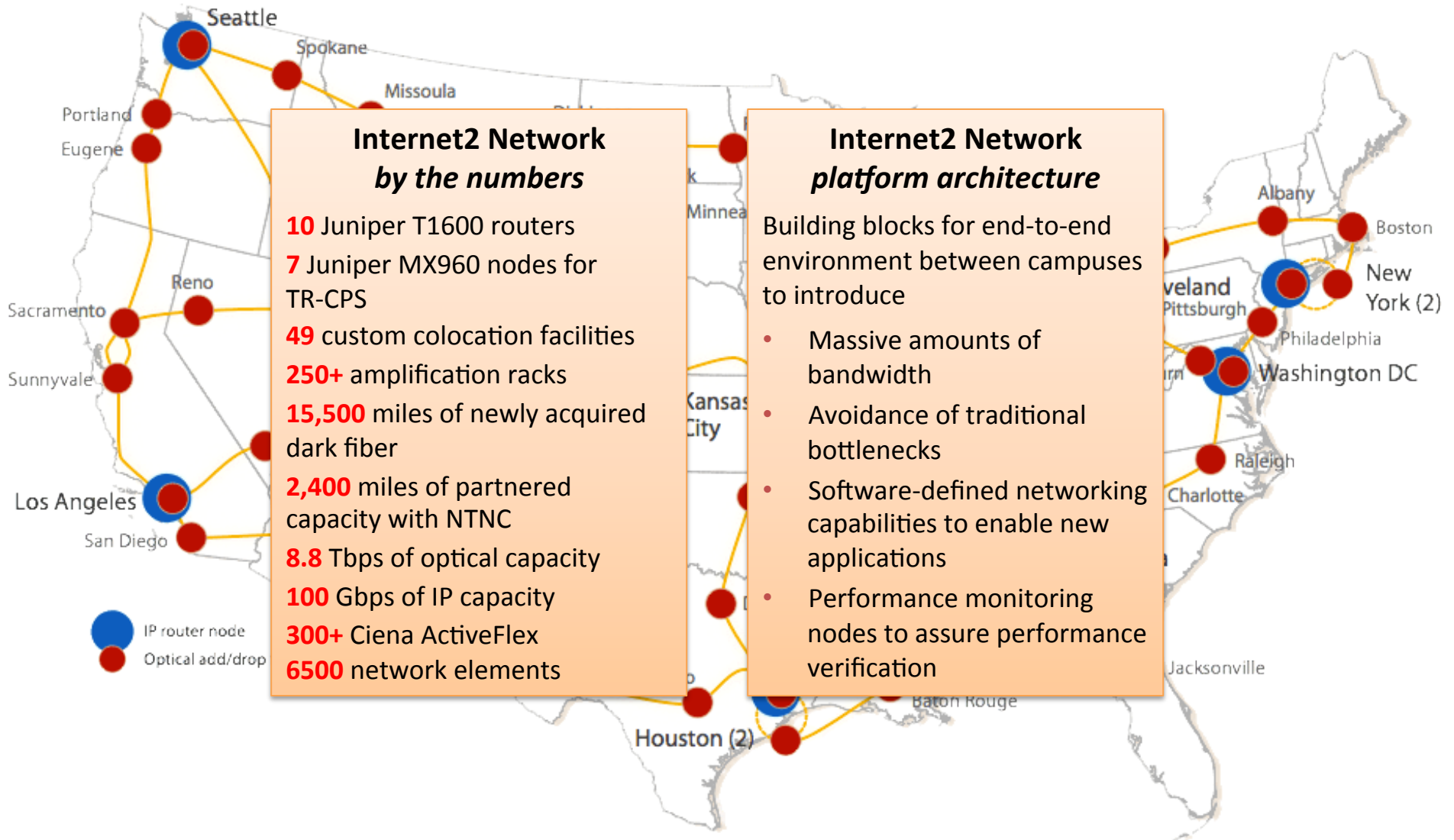
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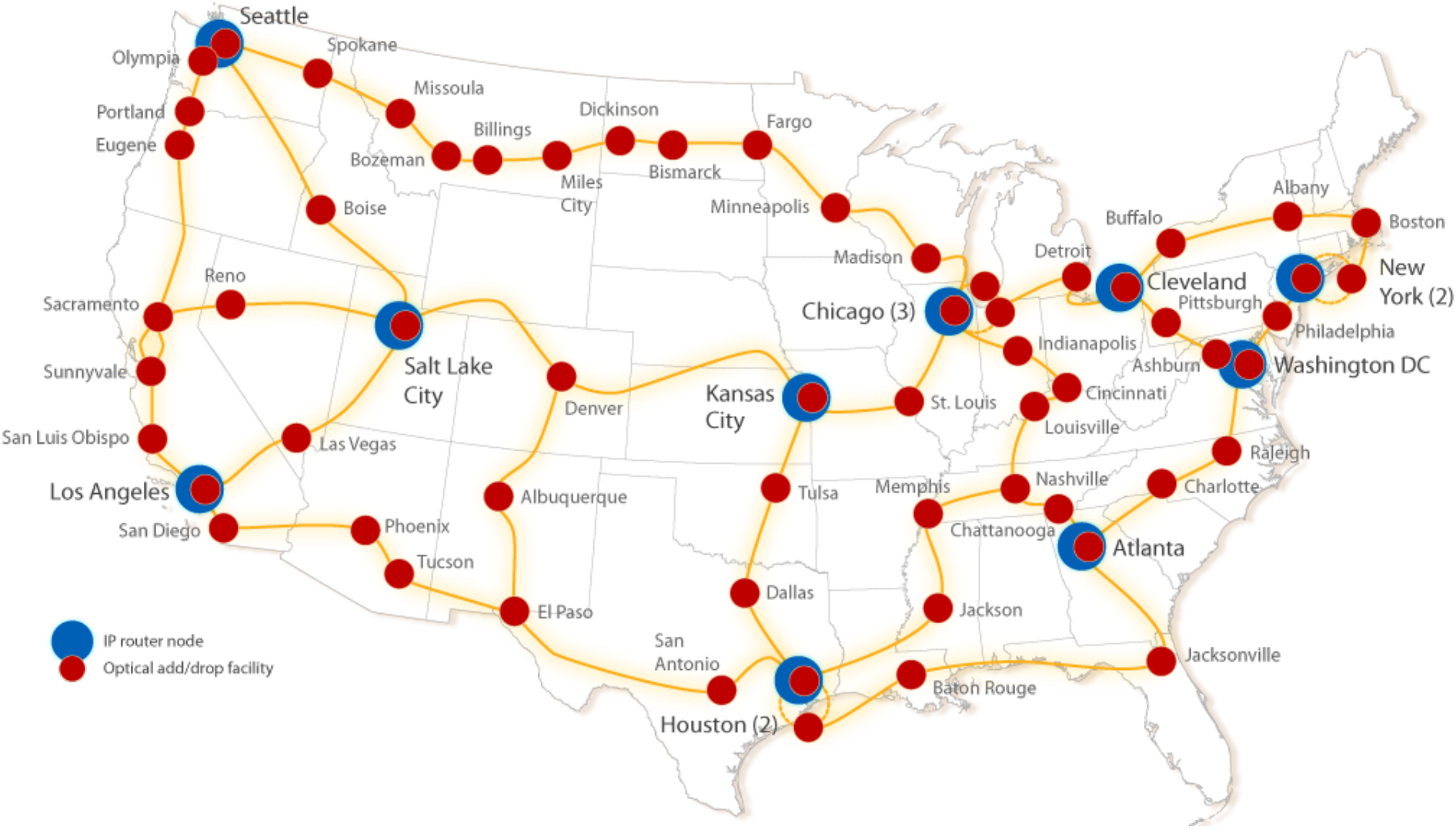
The Internet2 Community



The New Internet2 Network



Internet2 planned 100G infrastructure topology



What is Internet2 NET+ Services all about?

- The higher ed community coming together to negotiate for cloud services that meet their needs
- Internet2 serves as the convening body based on university needs and sponsorship
- Based on providing value both to higher ed and to service providers
 - Tailored services
 - Reduced administration
 - Special pricing
 - Negotiated contracts
 - On-going involvement with service providers

Internet2 NET+ Portfolio Growth

One year ago, Internet2 NET+ was announced with
2 services and **13** participating campuses

Six months ago, there were
20 services and **23** participating campuses

Today, there are **28** services and
87 participating campuses...
and even more in trials!

Internet2 NET+ is about “Community”



Enabling Change: Internet2 NET+ Services

A community-based response to the emerging challenges of cloud-based services, intended to:

- Focus the efforts of the community on collaboration and innovation in provisioning and use of services
- Provide a mechanism for more effective engagement with technology companies
- Mitigate and/or remove impediments to the provisioning and adoption of cloud services
- Drive down the costs of provisioning/consuming services
- Provide a strategic partnership with the service provider community in the development of new service offerings

Benefits to Internet2 Members

- **Capabilities responsive to member demand**
 - On-going relationship with vendors to ensure that features of offerings continue to meet unique higher ed needs
 - Opportunities to leverage demand to lower costs
- **Effective use of Internet2 services**
 - Direct connection of service providers to Internet2 network
 - Use of InCommon federated identity management to facilitate inter-university research
- **Stream-lined administrative process**
 - No need for additional contract terms/negotiation
 - Pre-negotiated prices that leverage scale
 - Procurement as part of Internet2 membership

Internet2 Members *define* NET+

Campus Members:

- Identify opportunities
- Engage in ***Research*** and exploration with Service Providers
- ***Evaluate*** proposed solutions
- ***Sponsor*** Service Validation phase Service Providers
- Facilitate ***Adoption*** by other campuses
- Decide when services are ready for ***General Availability*** in conjunction with Internet2, Participating Campuses, and Service Providers
- Determine when services are no longer meeting community needs

What do participants in NET+ do?

Higher Education Agree To:

- ✓ Common identity and network
- ✓ Invest in R&E networks
- ✓ Common contract terms
- ✓ Change Financial Allocation
- ✓ Coordinate Feature Requests
- ✓ Support Security Standards
- ✓ Speed procurement process
- ✓ Tier One Support
- ✓ Sponsor new NET+ services
- ✓ Participate in Service Validation
- ✓ Support Roadmap for 24 months

Providers Agree To:

- ✓ Support In Common
- ✓ Move traffic to R&E networks
- ✓ Common contract terms
- ✓ Move to new license models
- ✓ Participate in NET+ Roadmaps
- ✓ Audit for Security Standards
- ✓ Dramatically Reduce Sales Costs
- ✓ Tier Two & Three Support
- ✓ Work closely with Sponsor
- ✓ Successful deployment at SV's
- ✓ Support Roadmap for 24 months

Current Five Steps of NET+ Services



Research Incubator

This phase is a research-driven activity to incubate very early stage solutions and technical concepts towards service creation.



Evaluation

Internet2, service provider and university study an offering to determine whether it is suited to be a Internet2 NET+ Service offering.



Service Validation

A sponsor and group of universities work with the service provider and Internet2 to define the NET+ service.



Early Adopter

Universities begin using the NET+ service and continue working with Internet2 and the service provider to develop it further.



General Availability

The NET+ service is open to eligible universities. Quarterly Advisory Board meetings continue to inform the service roadmap.

Step 6: The final step TBD



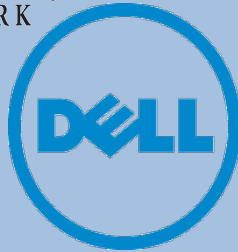
Step 6: Removal

The demotion of a service from the NET+ Model to “direct to the provider.”

Occurs twelve months from a service steering committee recommending removal due to feature atrophy, quality or pricing failures, or better market options.

Internet2 NET+ Service Provider Ecosystem

Infrastructure-as-a-Service



Software-as-a-Service



Communications-as-a-Service



Other Services

FULL LIST OF SERVICE PROVIDERS ON INTERNET2 WEB SITE

Internet2 NET+

Criteria for inclusion in the portfolio

- Offered services scale to have a national impact
- Can/do/will leverage the Internet2 network
- Can/do/will use InCommon for federated identity
- Provider is willing to negotiate a national contract that will satisfy significant portion of the community
- Provider is willing to adopt and support the community's needs with respect to security, privacy, compliance and accessibility
- Provider is prepared to work with the Internet2 community to customized services to meet the unique needs of education and research

Internet2 NET+ Box

Area: IaaS/PaaS
Solution: Secure storage and collaboration platform
Provider: Box
Sponsor: University of California Berkeley



Status

- General Availability
- 36 Universities signed up; dozens more in active trials
- 1.27m user accounts
- Commercial value of the service is over \$450M for ~\$2.8m NET+ cost

Next Steps

- Continual enhancements and feature improvements
- BAA expected Q1 2013

Internet²NET+

Internet2 NET+ Windows Azure

Area: IaaS/PaaS
Solution: Open and flexible cloud platform that enables quick building, deployment and management of applications across a global network of Microsoft-managed datacenters
Provider: Microsoft
Sponsor:

Microsoft[®]



Windows Azure[™]



**Early
Adopter**

Status

- Participation is Open
- Business agreement completed
- Services can be acquired via an IRU model

Next Steps

Continue work on integration with InCommon

Internet²NET+

Internet2 NET+ DuraCloud

Area: SaaS
Solution: Internet2 members have automatic access to DuraCloud, a community-developed service aimed at meeting the preservation needs of Internet2 members to ensure that irreplaceable documents, imagery and videos are always accessible.
Provider: DuraSpace
Sponsor: University of Virginia



Early Adopter

Status

- Participation is Open
- Business agreement completed

Next Steps

Complete testing of InCommon implementation

DURASPACETM



Internet²NET+

Internet2 NET+ VCL Services

Area: IaaS
Solution: Open source “Virtual Computing Lab” services (cycles and management) for the Internet2 community
Provider: North Carolina State University & IBM
Sponsor: George Mason University



Service Validation

Status

- Participation is Open

Next Steps

Complete service validation and move to Early Adopter phase



InCommon Certificate Service

Area:	Middleware
Solution:	Unlimited SSL and personal certificates for one fixed annual fee
Provider:	Comodo
Sponsor:	InCommon Steering Committee



Status

- Internet2 members receive 25% discount
- Current subscribers: 205 institutions

Next Steps

- Renew agreement with Comodo
- Reevaluate pricing

Internet2 NET+ Impact

Generally Available Services

Over one million accounts

Hundreds of thousands of certificates

Minimal administration

All tailored to the unique needs of research and education

Commercial Value of Over \$400+ Million

For community investment of \$4 million

Internet2 NET+ Scope

Regional Partners Program

extends the benefits of Internet2 NET+ services
to more communities (including SEGP)

Charter Partners

CENIC

Indiana GigaPop

Merit

OARnet

Florida Light Rail

MCNC

NYSERNet

WiscNet

Internet2 NET+ Scope

Global Partners Program

extends the benefits of
Internet2 NET+ services
to Global Partners Interested
National Research Education Networks

Global Partners

Australia

Canada

Mexico

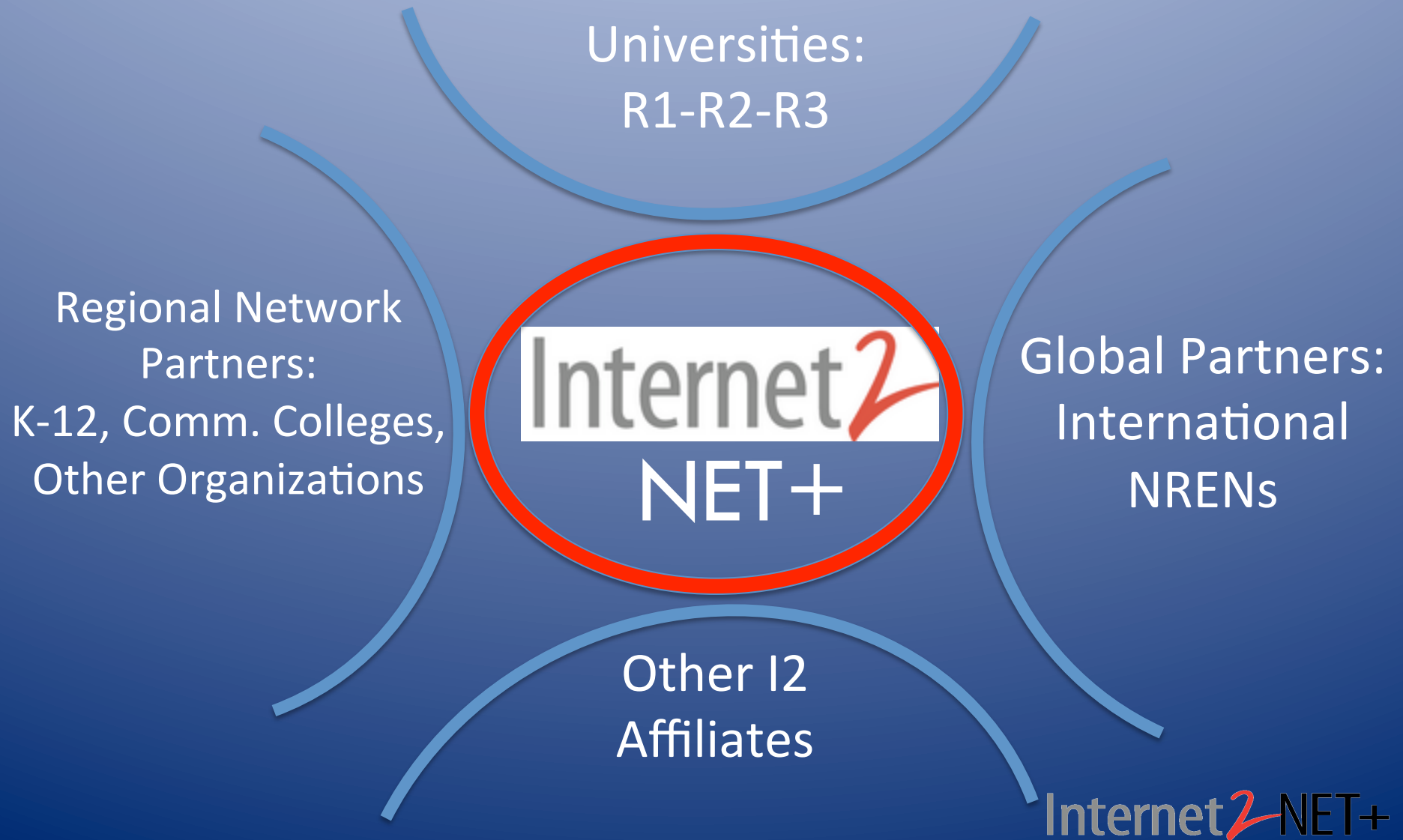
New Zealand

Netherlands

United Kingdom

United States

Future view: Internet2 NET+ PARTNERS



Questions / Discussion

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