# Why Internet2 Matters to Higher Education
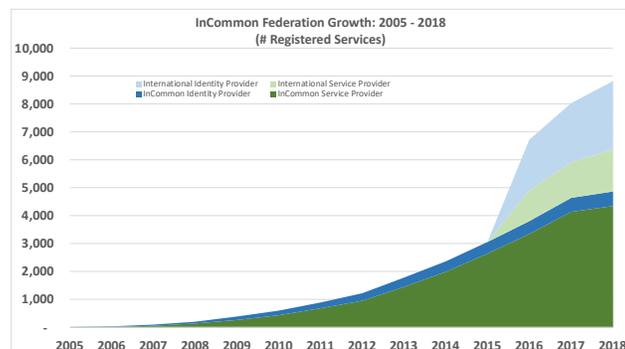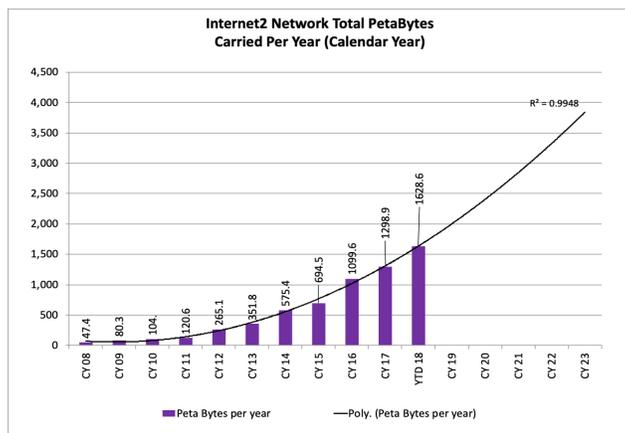## (and Why Higher Education Matters to Internet2)
7 December 2018

Internet2 represents one of the primary mechanisms through which the higher education community uses the power of collaborative scale to make possible capabilities no single institution could produce on its own and to assure that key aspects of the environment for advancing scholarship are available when and in the most useful manner needed. Internet2 provides:

- The nation's high-performance congestion-free research and education data network connecting universities, colleges, national labs, data assets and computational resources
- Seamless data exchange with more than 65 global partner networks reaching over 100 countries, providing high-performance research data flows that support global research collaborations, connectivity to global research centers and labs, American presence overseas, and faculty and students working and studying abroad
- Multiple commercial cloud services heavily used and specifically tailored for education, administration and research
- Trusted and seamless wireless connectivity via eduroam for mobile devices carried by our members travelling throughout the U.S. and in 89 other countries
- InCommon trusted federated cross-institutional identity management services and tools

## Membership matters

The services of Internet2 are there when they are needed, and they work.  In addition, many scholars and research faculty know that being able to use the Internet2 network provides a competitive advantage when applying for federal grants, or when participating in multi-institutional or global research collaborations or virtual research organizations.  Faculty and graduate students that are aware of these benefits see an institution's Internet2 membership and InCommon participation as key indicators of a core commitment to supporting a productive research environment on the campus, and will often ask about this when evaluating potential employment and appointment   opportunities. The present, evolving and enduring utility and value of these services are demonstrated by the growth in their adoption and use over time, shown



Internet2 Network Total PetaBytes Carried Per Year (Calendar Year)



InCommon Federation Growth: 2005 - 2018 (# Registered Services)

in these graphs; as is the value of membership itself, which has increased from 211 institutions in 2008 to more than 300 today.

Each of these services is available to organizations beyond the Internet2 membership, and various forms of service fees from non-members help to support each service. But it is the Internet2 membership that provides the funding and effort that fuel the core existence and operations of Internet2 as an organization, and shape every one of these services – these services would simply not exist or be what they are without the commitment and contributions of Internet2's members. *Membership matters.*
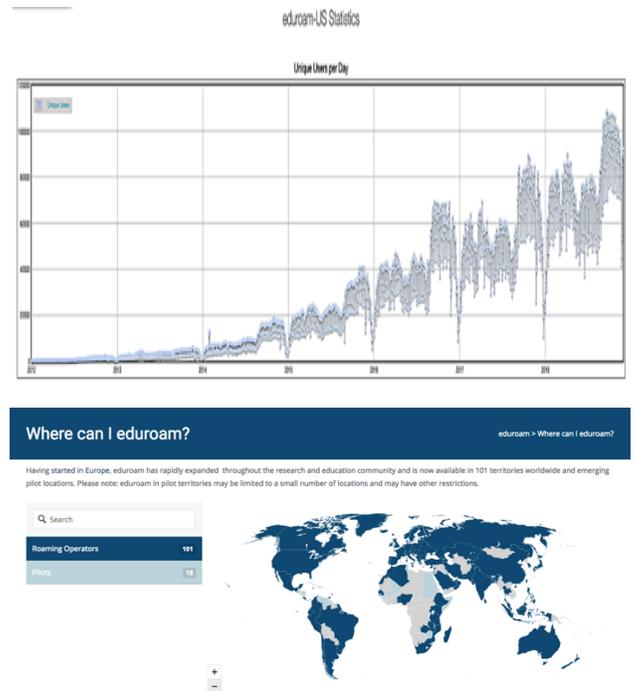
Internet2 was founded in 1996, as the federal government was winding down its support for national research networking infrastructure. A group of research universities decided, with great foresight, that *they* needed to collectively take control of provisioning national advanced data networking capability to have predictability and confidence in meeting the needs of their scholars *when* and *in the ways* they needed. This insight has proven valid repeatedly -- the best solutions often depend critically on the initiative of the higher education community itself, and Internet2 serves to facilitate that collaborative effort.

Additionally, so many critical tools, platforms and infrastructure for research support arise from projects that are one-time funded by grants or investing institutions. Most don't have a plan or organization for sustainability. Internet2 can provide a mechanism for sustainability and durability of selected research and academic infrastructure.

Internet2 operates as a function of the community. Its direction and methods are set by the community of its members, and primarily by its higher education members. Its work is done collaboratively with its members and as an extension of and involving members' staff and resources. Its services don't just work end-to-end on their own, but require investment at the regional and campus levels, so these are true community efforts.

So Internet2 depends on its members as much as they depend on Internet2. For Internet2 to continue to serve higher education and research generally, it needs members that are committed to being part of this vital national collaboration, members that will contribute their share of financial support to Internet2, and also valuable staff and leadership time, attention, expertise and guidance. It needs members that are durable – committed for the long run – to assure the ongoing relevance and sustainability of the services Internet2 provides.

*Membership matters.*

**What does my institution get as an Internet2 member?**

Internet2 higher education members *uniquely get*:

- Full access and use of the Internet2 R&E network, including access to many advanced networking services beyond the Layer 3 service
- Benefits the network provides:
    - Congestion-free flows within the U.S. to/from other Internet2 members
    - High-performance flows to/from many other countries
    - Enhanced data security on a R&E network separated from the commodity Internet
    - Direct and peered connections to key cloud service providers, including Amazon AWS Direct Connect, Google Cloud Platform Dedicated Interconnect, and Microsoft Azure Express Route
    - Access to technical assistance and network measurement resources
    - Enhanced service performance on your campus and reduce traffic volume on commercial commodity network services
    - Opportunity to subscribe to a cloud-based volumetric DDoS mitigation service
- Advice and letters of support from Internet2 for research projects and grant applications
- Access to the full portfolio of NET+ cloud services; participate in setting and validating cloud service requirements
- Ability to participate in the governance and steering of Internet2's efforts
- Opportunity to participate in many members-only workgroups and efforts
- Reduced registration rates for Internet2 meetings, workshops and other events
- The benefits and prestige of being part of a collaborative community of leading higher education institutions that, through Internet2, are actively designing and operating mission-critical services, with many opportunities to learn from others, see what the most innovative institutions are up to, and share experience and expertise
- Opportunity to participate and benefit from uniquely collaborative efforts with industry leaders; Internet2's industry members tell us they see unique *non-sales* opportunities to work with higher education members through Internet2 that do not present through any other higher education organization
- Interact with members from a broad variety of federal government agencies and labs that support and collaborate with academic researchers
- Gain marketing and communications support for key institutional accomplishments and initiatives
- Presently, Internet2 pays the annual participation fees of its higher education members for their primary eduroam connector

However, as described above, being a member matters as much for what your institution contributes to the ongoing success of this consortial effort as it does to what it gets from it. As a member, you help *assure* that the mission-critical services Internet2 provides will

continue to exist and be kept up to date to meet core institutional needs for supporting scholarship – and that the value of membership will accrue year after year.