

SMART HIGH-PERFORMANCE NETWORKS –
TOWARDS A NEW GENERATION OF
INTELLIGENT NETWORKING INFRASTRUCTURE
FOR DISTRIBUTED SCIENCE ENVIRONMENT

SPONSORED BY THE U.S. DEPARTMENT OF ENERGY
OFFICE OF ADVANCED SCIENTIFIC COMPUTING RESEARCH
ROCKVILLE, MARYLAND
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The U.S. Department of Energy, [Office of Science](#), [Office of Advanced Scientific Computing Research](#) will host the Smart High-Performance Networks – Towards a New Generation of Intelligent Networking Infrastructure for Distributed Science Environment at [the Hilton Washington DC/Rockville Hotel & Executive Meeting Center](#) in Rockville, MD. The meeting will begin Thursday at 8:30 A.M. and will end on Friday around 3:00 P.M. Breakfast, lunch and snacks will be included.

ASCR PROGRAM MANAGER: [THOMAS NDOUSSE-FETTER](#)

Goal

- The purpose of this workshop is to bring together network researchers and operators from national laboratories, academia, and industry to identify and discuss emerging opportunities and challenges in the design and development of a new generation of smart high-performance network infrastructures to support distributed extreme-scale science.
- Scientists increasingly depend on highly reliable and secure high-performance networks to access critical science facilities, collaborate, and share massive volume of data. As this trend continues, networks are expected to provide more sophisticated easy to use, secure, and predictable intelligent services. These expectations translate to a new generation of high-performance networks with intelligent capabilities delivered to scientists in the form of just-in-time Network-as-a-Smart service (NaaS).

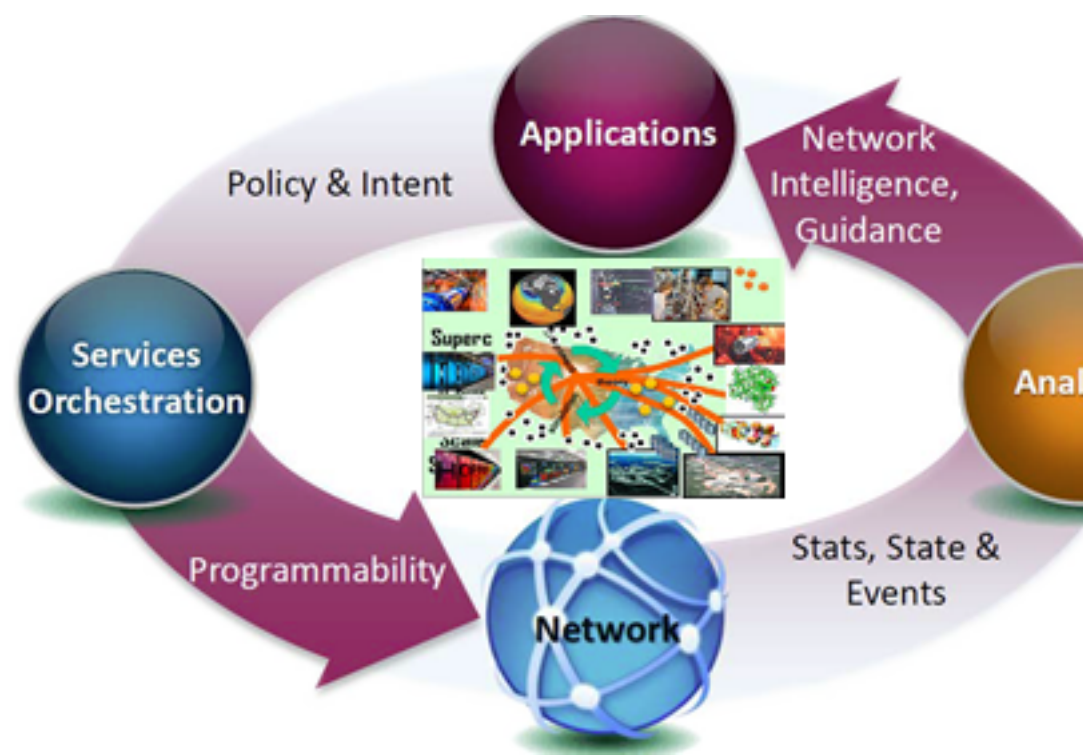
SELF-AWARE & SELF-MANAGED NETWORKS:

- Organization
- Optimization
- Configuration
- Adaptation
- Healing
- Defense/Protection
- Contextualization

QUICK LINKS

[Register for the Workshop](#)

[Pay Registration Fee](#)



Approach

- The workshop will explore emerging concepts such as cognitive networking, machine learning, network science, Software Design Networking (SDN) as critical technologies for designing smart networks capable of delivering NaaS. The desired features of these networks include self-awareness, auto-defensiveness, self-reconfiguration, and self-healing that collectively define a new networking paradigm known as AUTOGNOSTIC networking – namely self-aware networks designed and instrumented to continuously adapt to its operational conditions, traffic loads, inter-domain policies, cyber treads, and performance conditions. The ultimate goal is a smart network infrastructure that can monitor itself, diagnose and resolve problems, defend itself from cyber-attacks, and provide intelligent services to scientists.