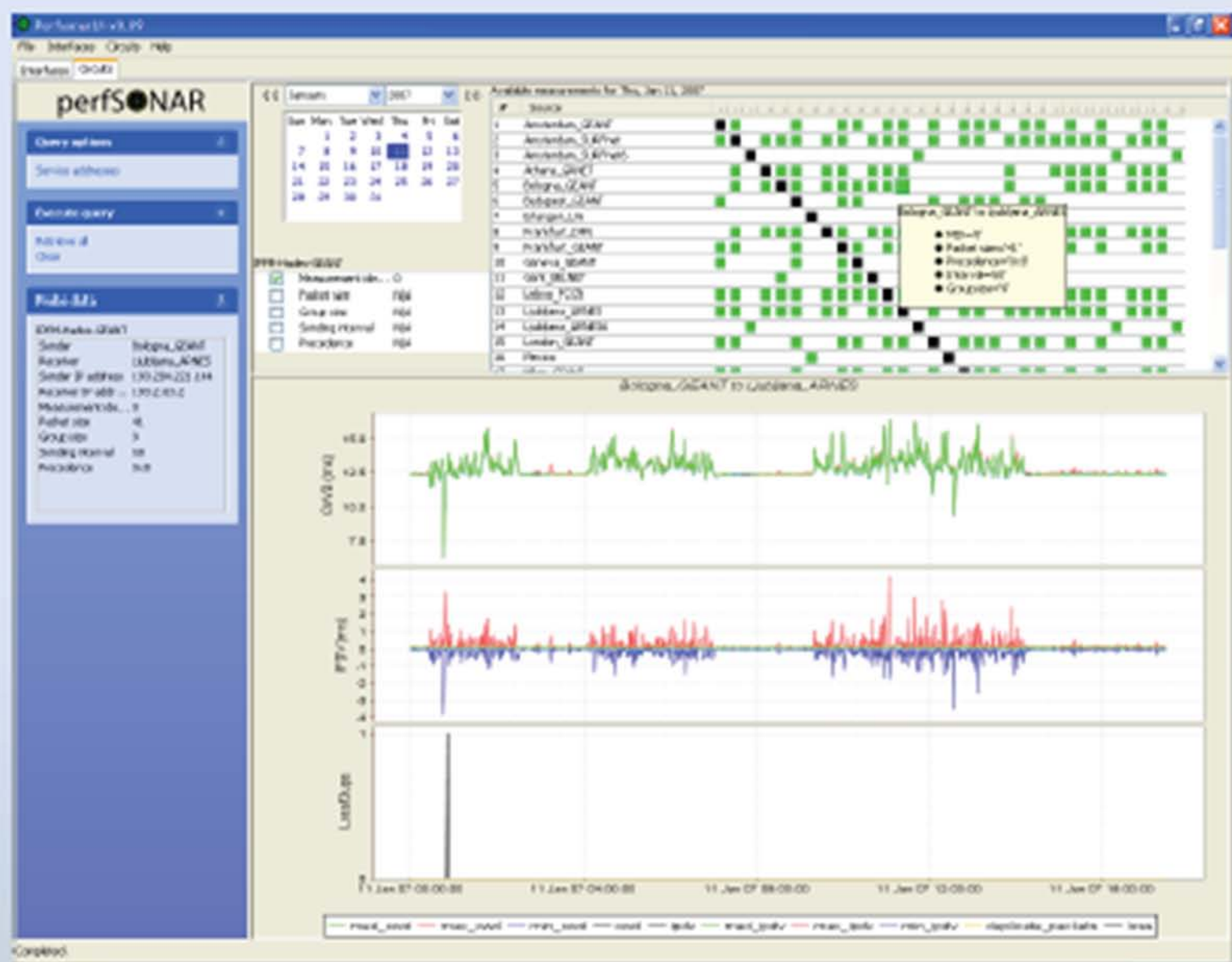# perfSONAR

perfSONAR Measurement Infrastructure

- Infrastructure for network performance monitoring, making it easier to solve end-to-end performance problems on paths crossing several networks
- Contains a set of services that deliver performance measurements in a federated environment.
- Defines protocols for making and exchanging performance measurements between networks.

perfSONAR UI, showing available endpoints and network measurements

perfSONAR is a services-oriented infrastructure for network performance monitoring, making it easier to solve end-to-end performance problems on paths crossing several networks.

It contains a set of **services** delivering performance measurements in a federated environment.

- Measurement Point Service
- Measurement Archive Service
- Information Service
- Authentication Service
- Transformation Service
- Resource Protector Service

These services act as an intermediate layer, between the performance measurement tools and the diagnostic or visualization applications.

This layer is aimed at making and exchanging performance measurements between networks, using well-defined protocols.
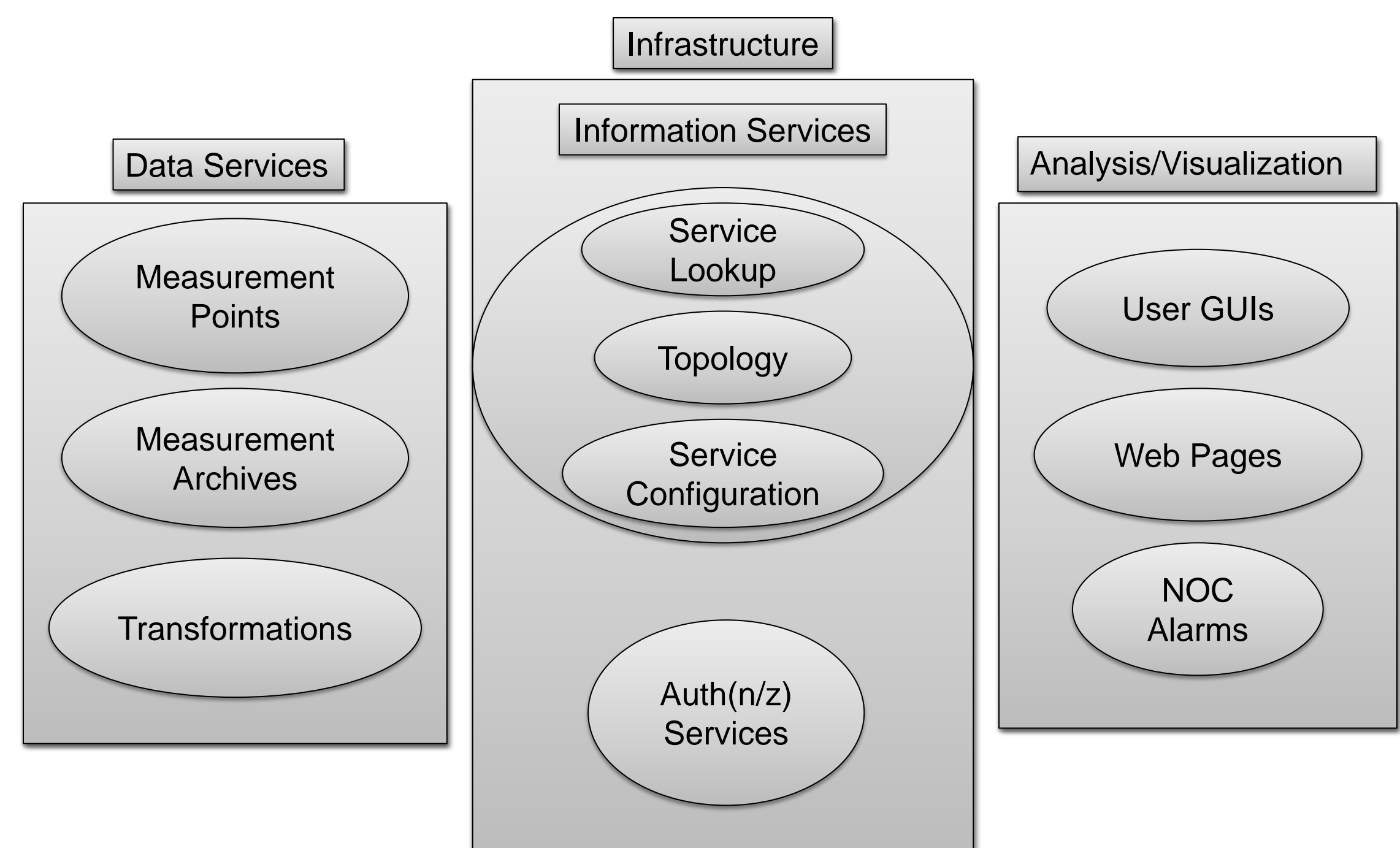
The **Information Service (IS)** is used for service registration, service discovery, and topology representation.

It is the aggregation of the Lookup Service and Topology Service, together forming a general network cyber-infrastructure.

perfSONAR Components

pS-Performance Toolkit

psps.perfsonar.net/toolkit

pS-Performance Toolkit provides a pre-configured suite of network performance tools – recommended and packaged by Internet2 – designed to collect, store and analyze network performance data.
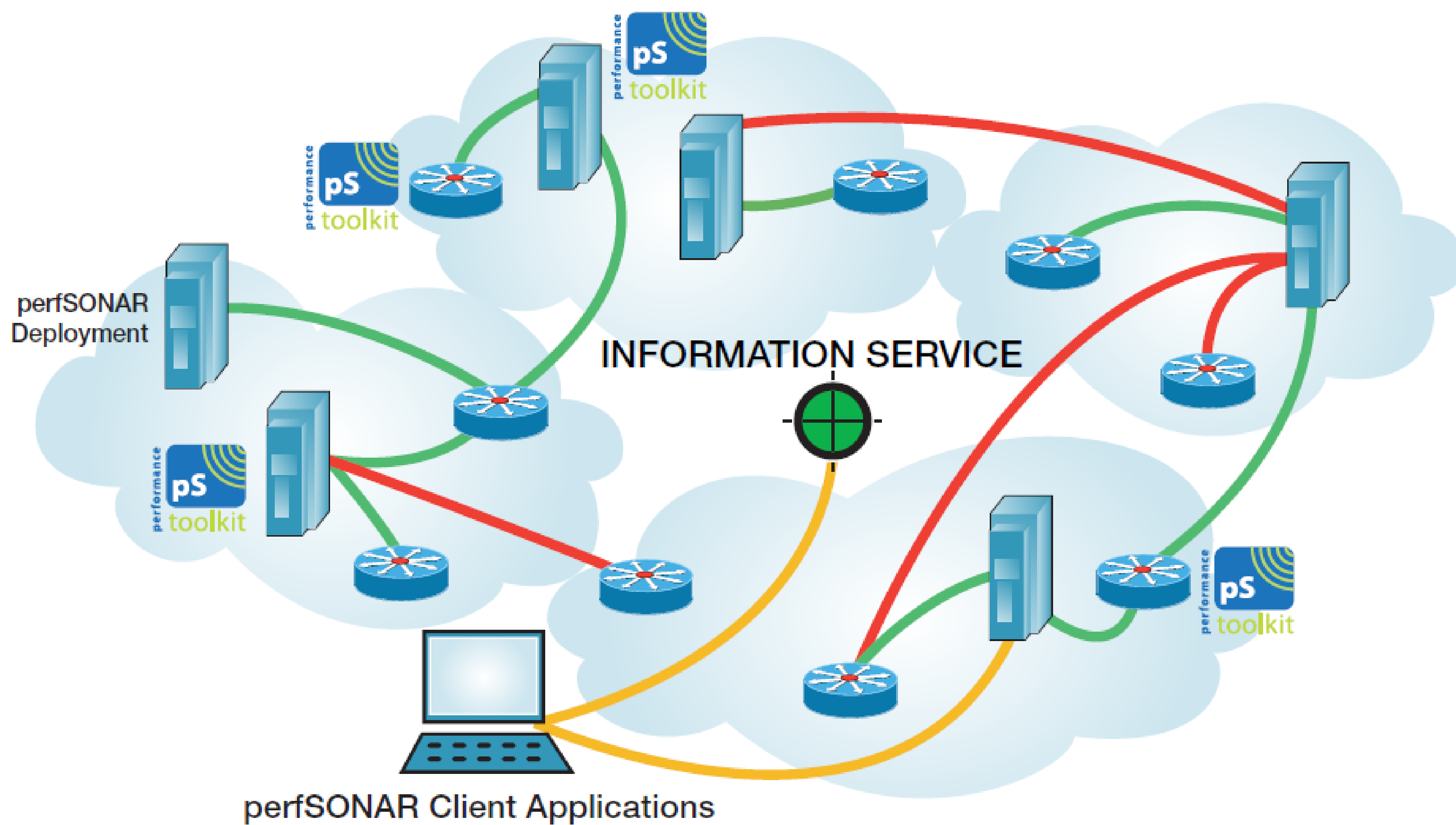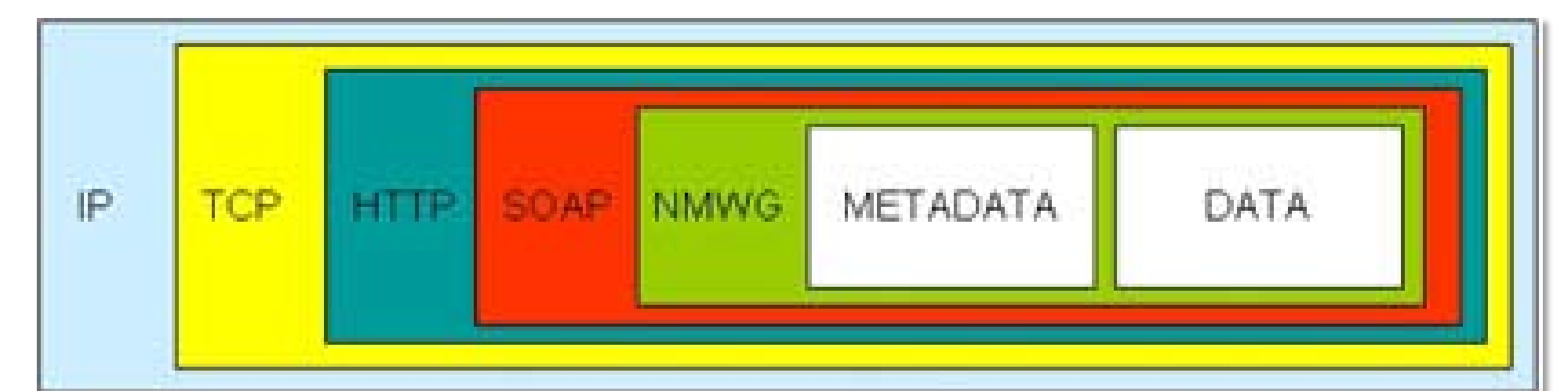- NDT
- NPAD
- SNMP
- PingER
- OWAMP and perfSONAR-BUOY
- BWCTL and perfSONAR-BUOY

perfSONAR Messages

perfSONAR services exchange NMWG messages.

The NMWG schema is used to describe measurement data and to exchange data between services.

The messages are carried in a SOAP message, over HTTP.

INFORMATION SERVICE

perfSONAR Deployment

perfSONAR Client Applications

- perfSONAR Monitoring
- Active Measurement
- Information Service Query
- Network Device
- Measurement Server
- Network Domain

Some perfSONAR numbers (Jan 26, 2010):

- **400+** Downloads of perfSONAR ISO per month
- **7** Global Lookup Servers
- **154** Home Lookup Servers
- **300+** Active Measurement Points
- **200+** Active Servers