



National Aeronautics and Space
Administration
Jet Propulsion Laboratory
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IPAC Computing Infrastructure

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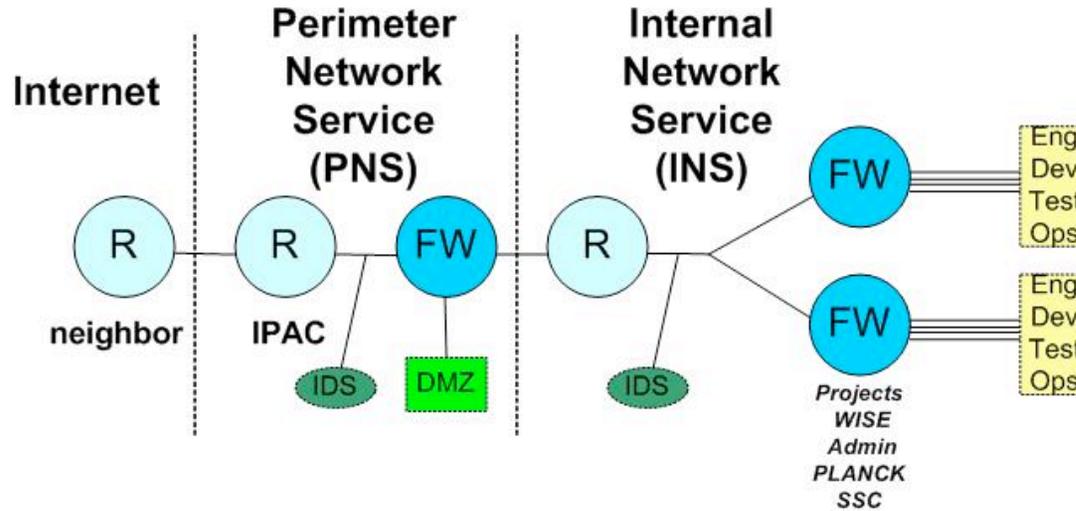


ISG supports :

- computing systems ranging from desktops to high performance computing cluster nodes for 8 projects
- gigabit network infrastructure
- petabyte storage infrastructure (1.5 petabyte by end of Q1)
- data center infrastructure with 80+ racks
- post-launch operations with 24x7 support



Logical Network Diagram



Legends:

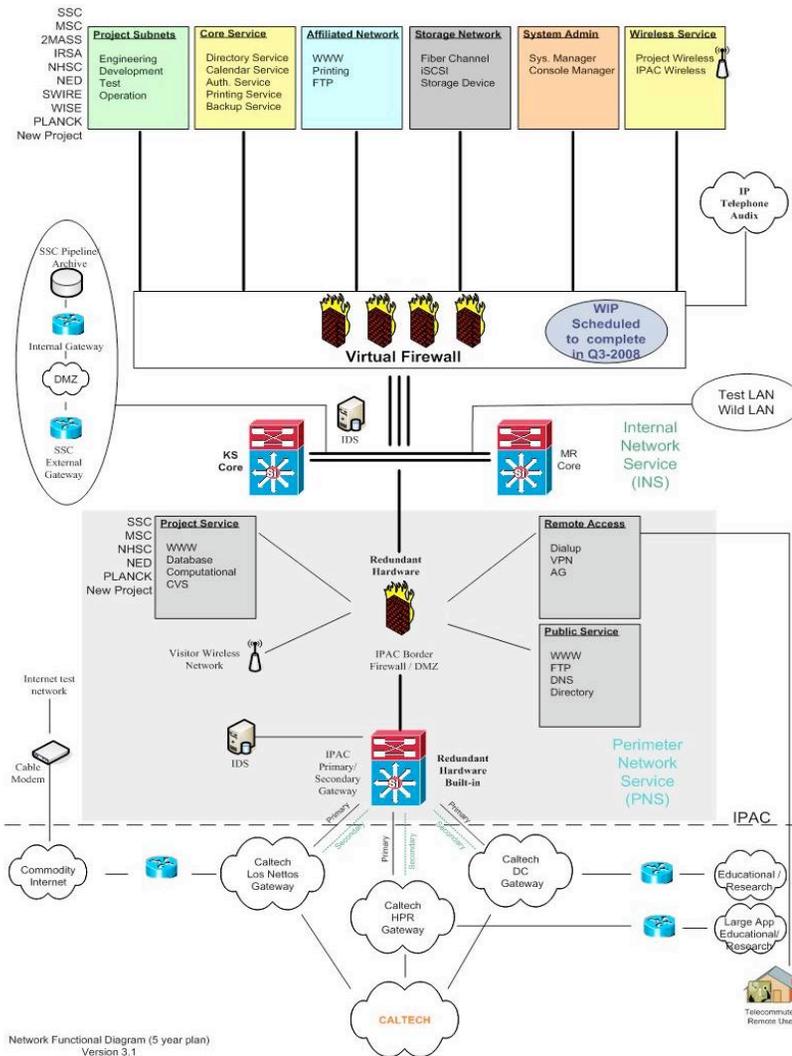
- Router -- network packet forwarding agent
- Firewall -- network packet inspection and filtering agent
- Intrusion Detection System -- network packet inspection and logging agent
- Demilitarized Zone -- controlled area contains public services accessible to internet
- Project Subnets -- protected area contains project resources

Steven Lo
 Version: 2.1





Network Diagram



- Perimeter Network Service (PNS) layer provides:

- Network packet routing
- Firewall functions
- DMZ for public services
- Intrusion Detection System

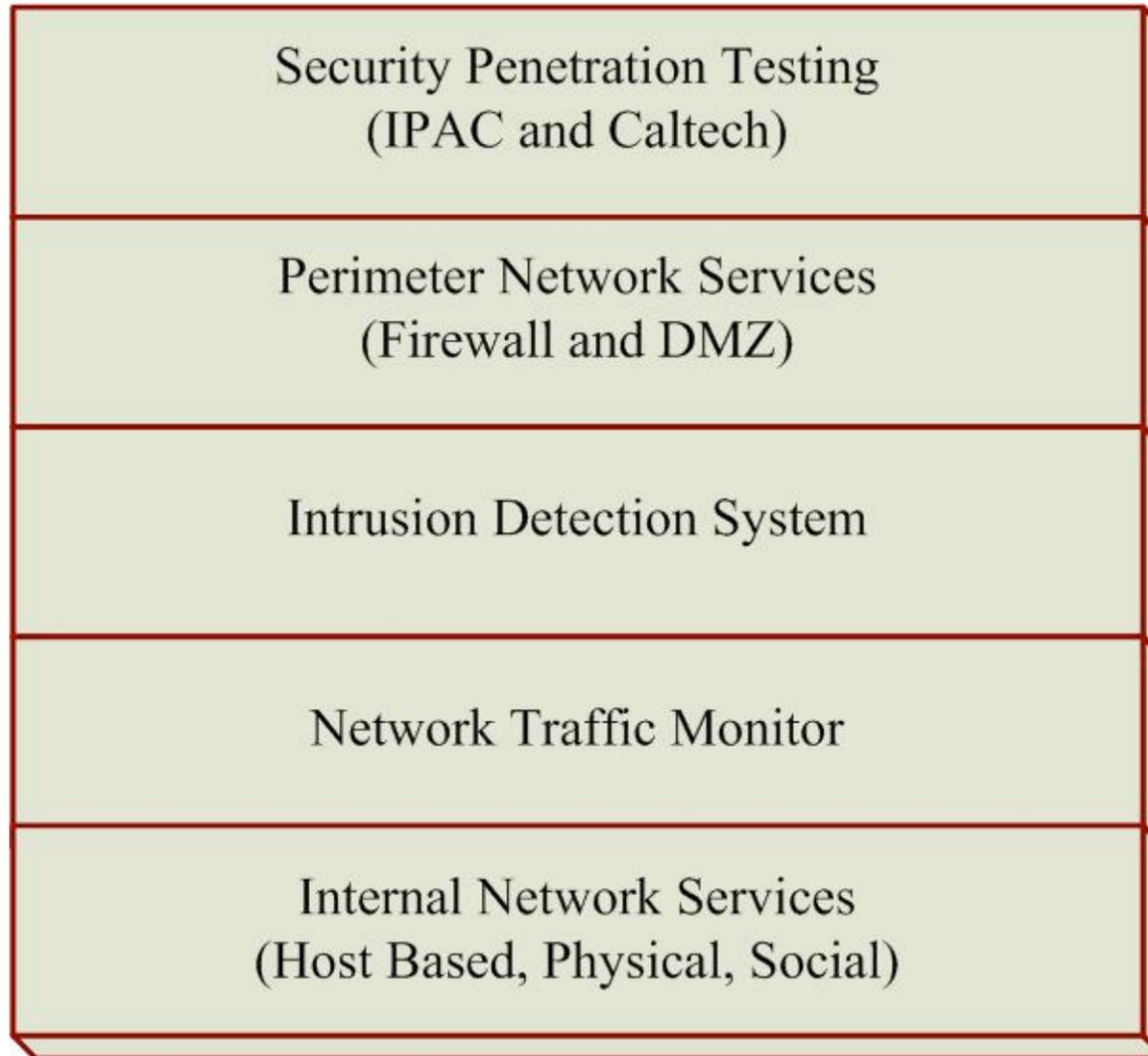
- Internal Network Service (INS) layer provides:

- Virtual Firewall framework
- Gigabit network throughput





Layered Security Model





System Redundancy and Configuration Management



WISE File Server Built-in Redundancy:

- RAID 1 (mirrored) on Operating System disk
- RAID 5 on data disks

WISE Cluster Nodes Configuration Management:

- Linux Kickstart configuration files
- Average system rebuild is within 2 hours (if replacement hardware is available)

