



National Aeronautics and Space
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Jet Propulsion Laboratory
California Institute of Technology



IPAC Computing Infrastructure

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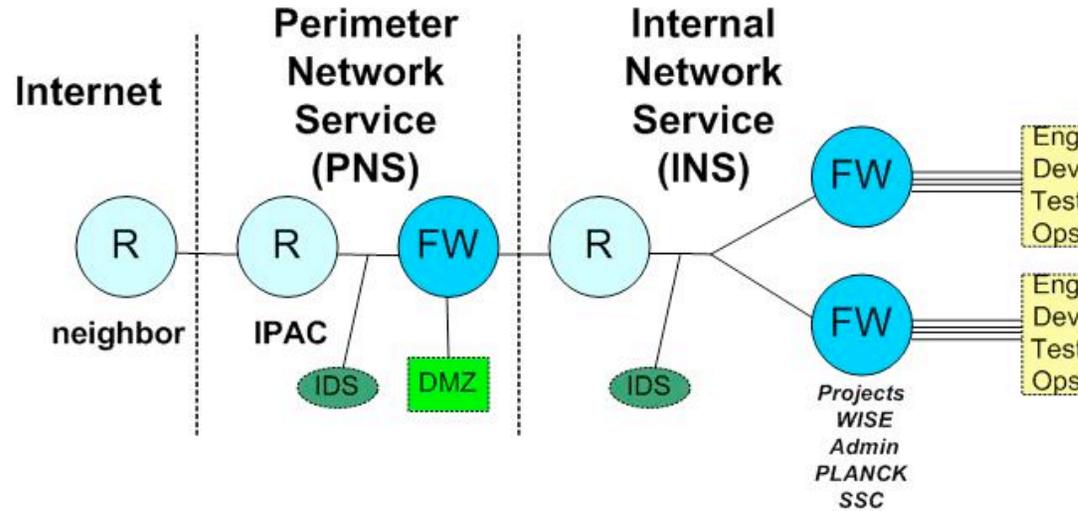
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Agenda

- IPAC Systems Group (ISG) Overview
- Network Infrastructure
- Security Infrastructure
- System Redundancy and Configuration Management



IPAC Logical Network Diagram



Legends:

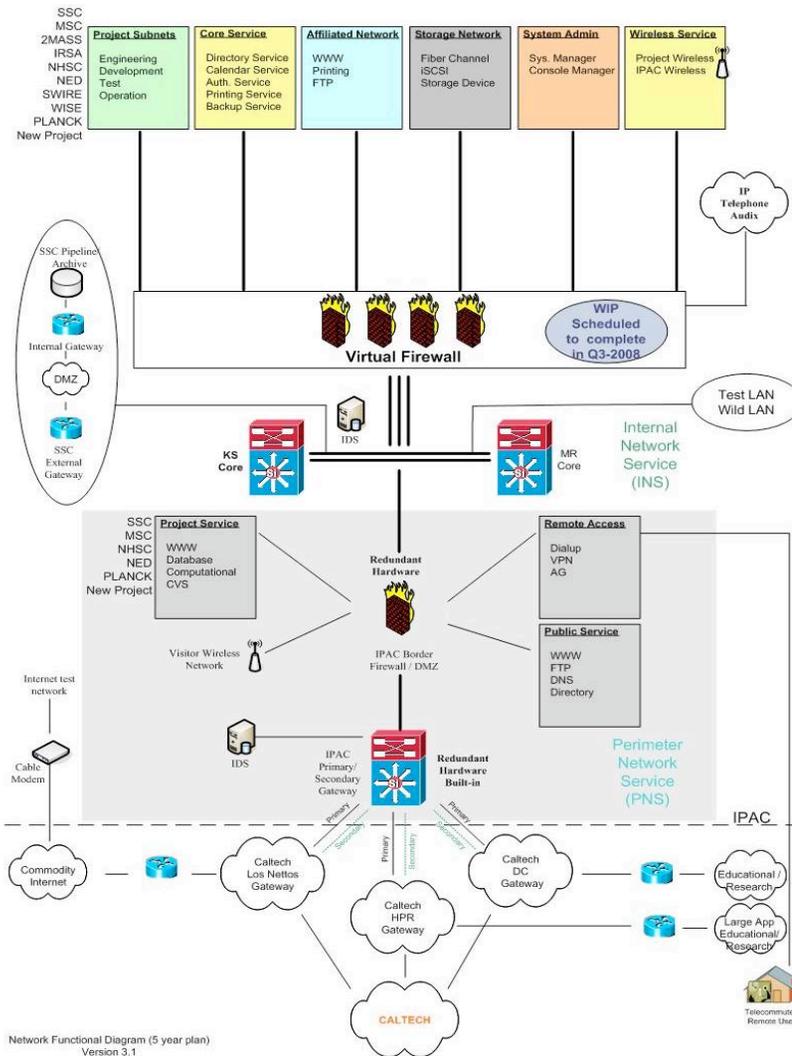
-  Router -- network packet forwarding agent
-  Firewall -- network packet inspection and filtering agent
-  Intrusion Detection System -- network packet inspection and logging agent
-  Demilitarized Zone -- controlled area contains public services accessible to internet
-  Project Subnets -- protected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

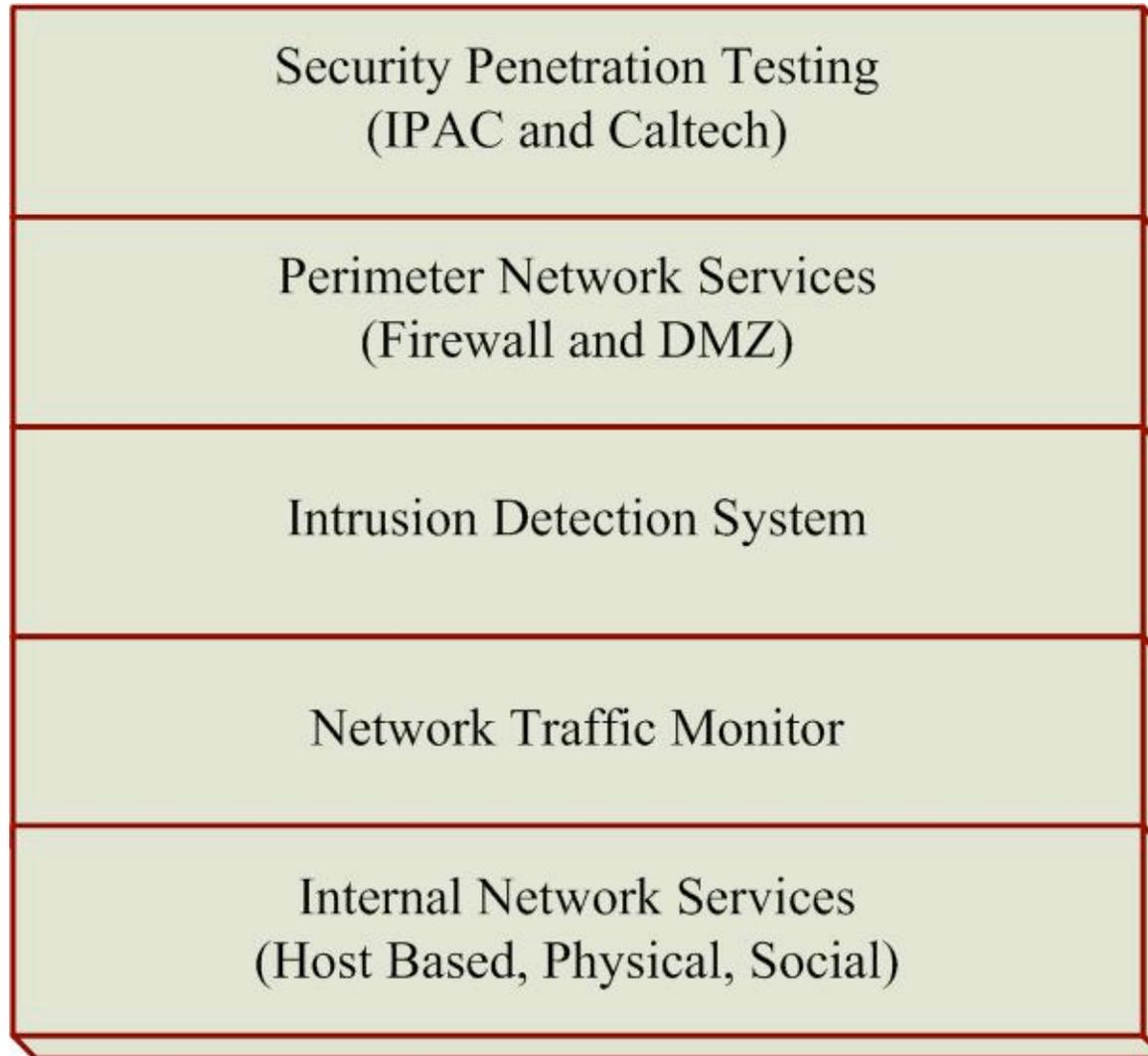
- Internal Network Service (INS) layer provides:

- Virtual Firewall framework
- Gigabit network throughput





Layered Security Model



System Redundancy and Configuration Management

File Server Built-in Redundancy:

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

Cluster Nodes Configuration Management:

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



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Questions



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