

# Boeing Real-Time for Mobility

DEN

Wireless



VOIP



Richard Paine  
[richard.h.paine@boeing.com](mailto:richard.h.paine@boeing.com)  
425.865.4921

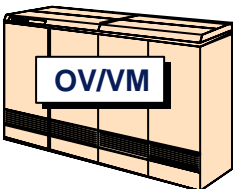
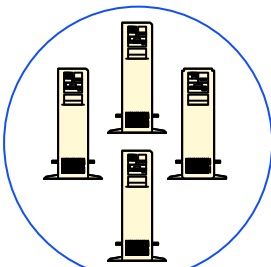
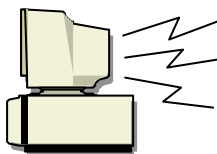
Mobile Nets



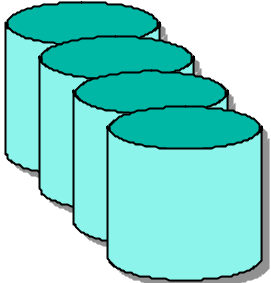
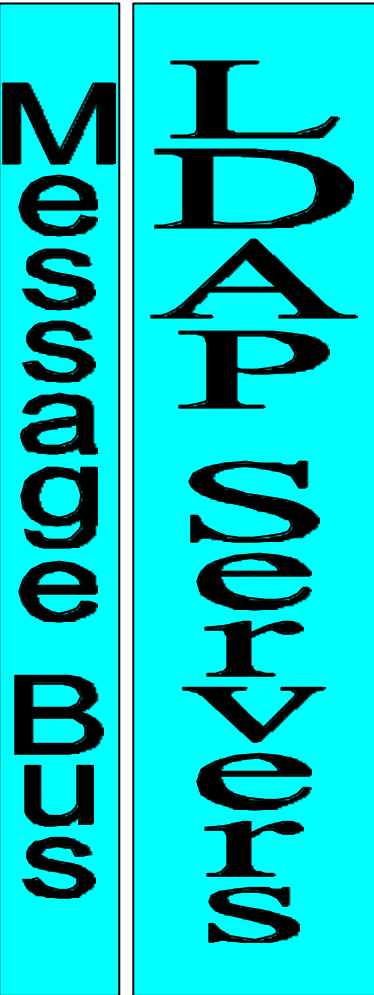
# Directory High Level View

Phantom Works  
Mathematics & Computing Technology

**clients**



**Applications**



Other Directories

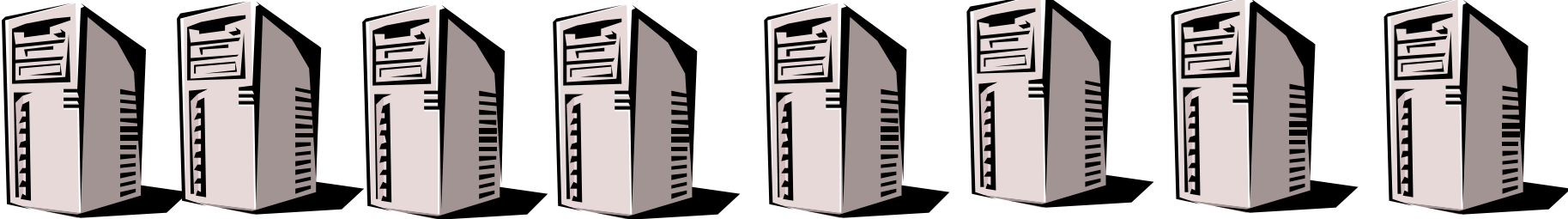
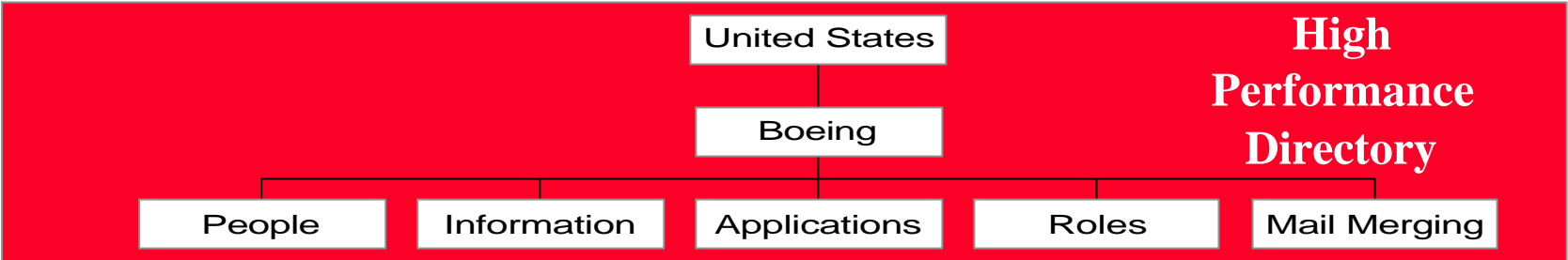


Your Favorite Directory

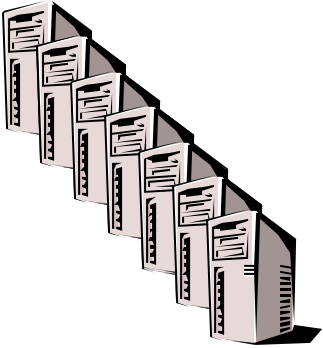


# Directory Tree - Possible Server Deployment

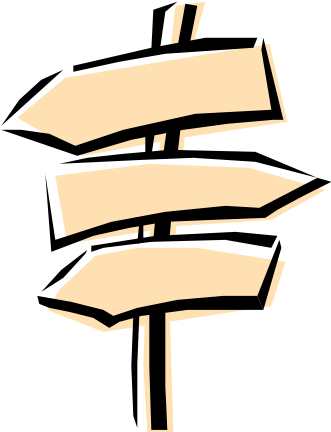
Phantom Works  
 Mathematics & Computing Technology



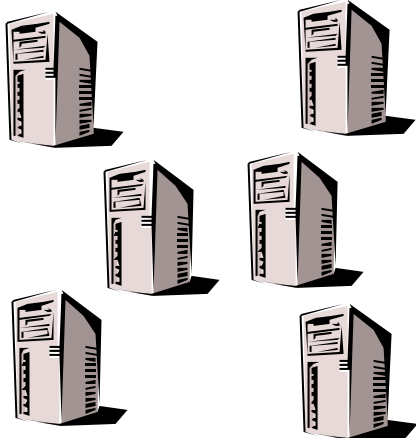
Master      Puget Sound      Southern California      St. Louis      Wichita      Philadelphia      London      Beijing



**Protocol  
 Connected  
 Directory  
 Servers**



**Loosely  
 Connected  
 LDAP  
 Servers**



# *Architecture Alternatives*

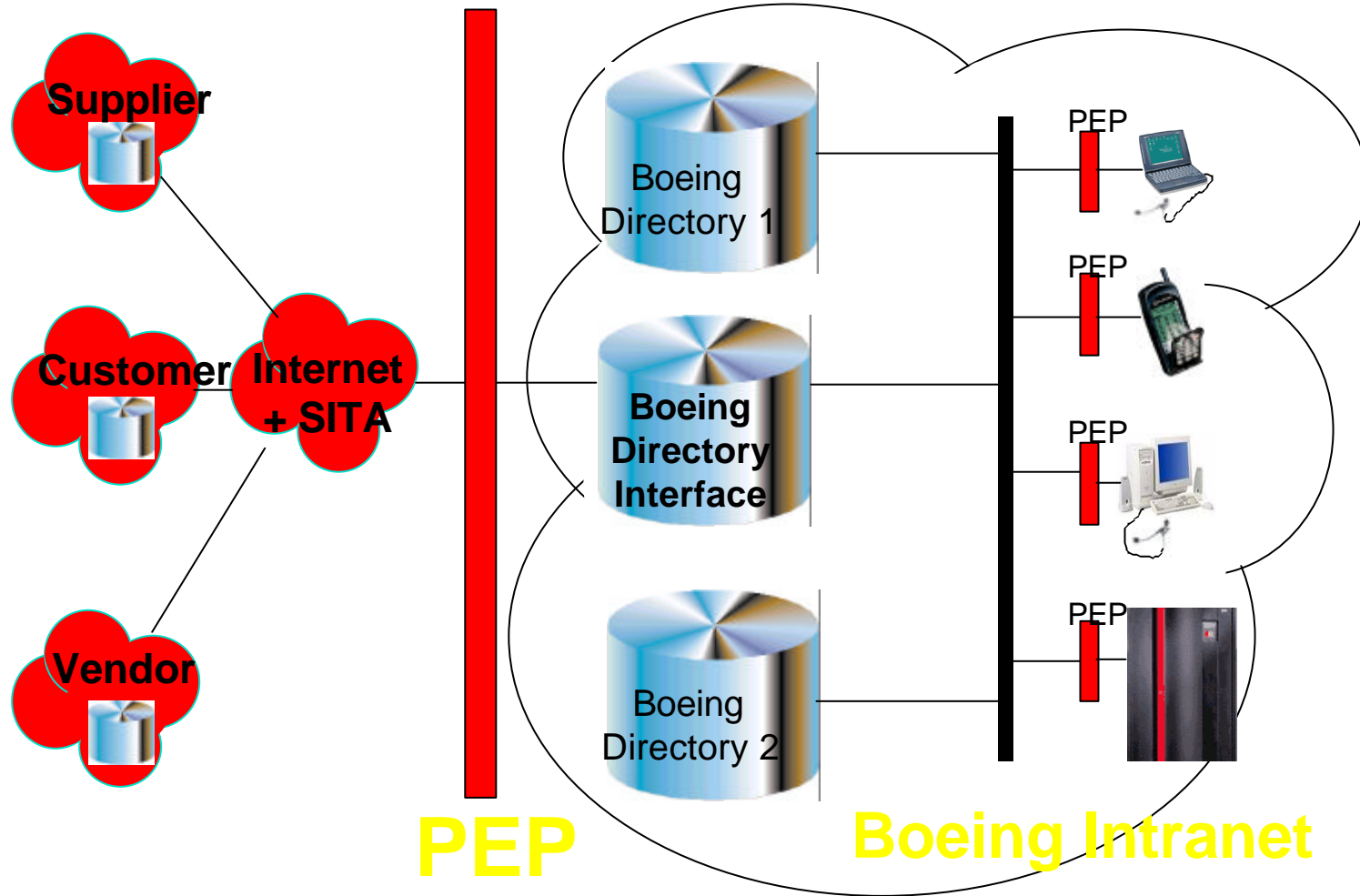
---

- **Business as usual – paper**
- **Anarchy**
- **Centralization**
- **Glue**

# Boeing Directory Vision & Architecture

Phantom Works  
Mathematics & Computing Technology

## Enterprise



PEP

Boeing Intranet



# Directory Interface Alternatives

Phantom Works  
Mathematics & Computing Technology

---



- Metadirectory
- LDAP Proxy
- Bridge
- Security Island Directory

# Real-Time for Wireless



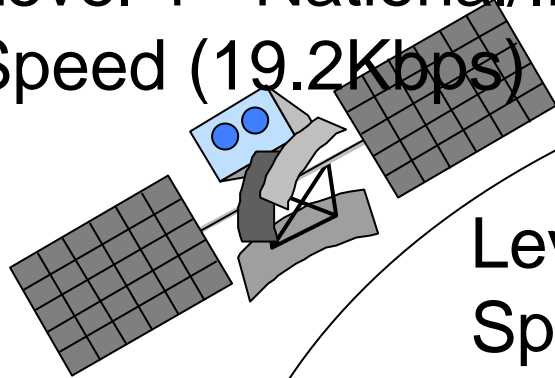
# Boeing Wireless Mobility Model

Phantom Works

Mathematics & Computing Technology

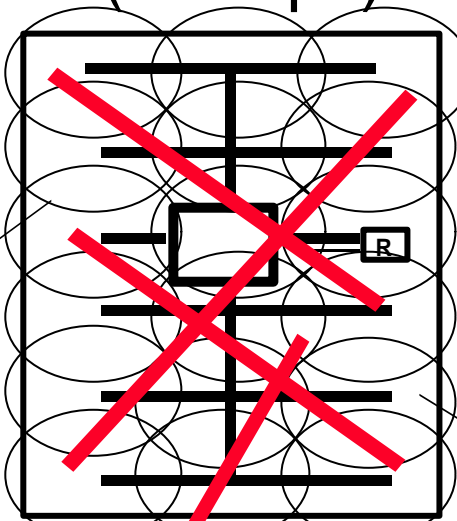
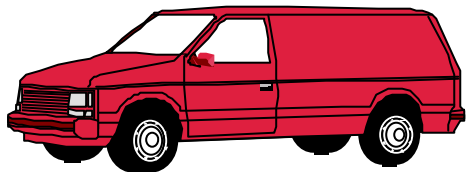
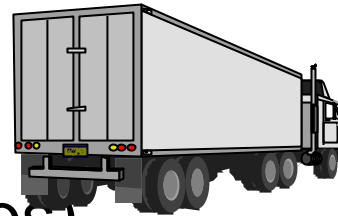
Level 4 - National/Intl Low

Speed (19.2Kbps)

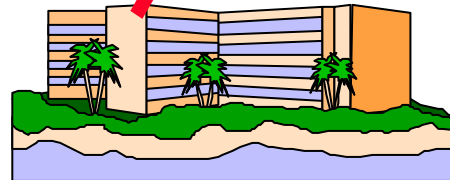


Level 3 - Regional Low

Speed Wireless (56Kbps)



Boeing Campus



Level 1 - Personal Area Network (.5-10Mbps)

Level 2 - Campus High Speed Wireless LANs (1-100Mbps)



# *Real-Time Roles in Wireless*

Phantom Works

Mathematics & Computing Technology

---

- **QoS**
- **Location**
- **Security**
- **Network Management**



# Real-Time for Voice Over IP (VOIP)



Network Architecture Board's  
Voice Over IP Working Group



# VOIP Vision

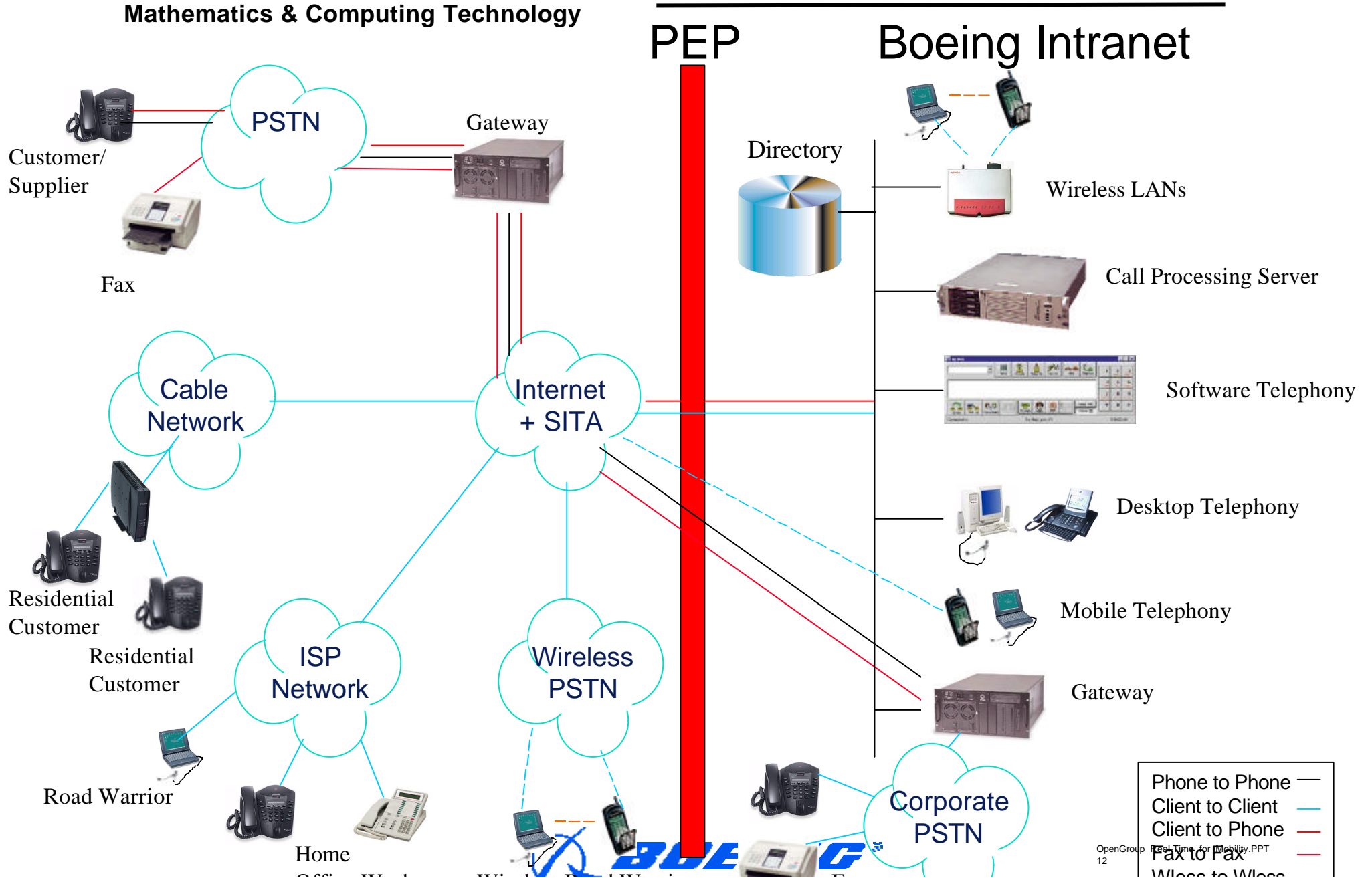
Phantom Works  
Mathematics & Computing Technology

## PEP



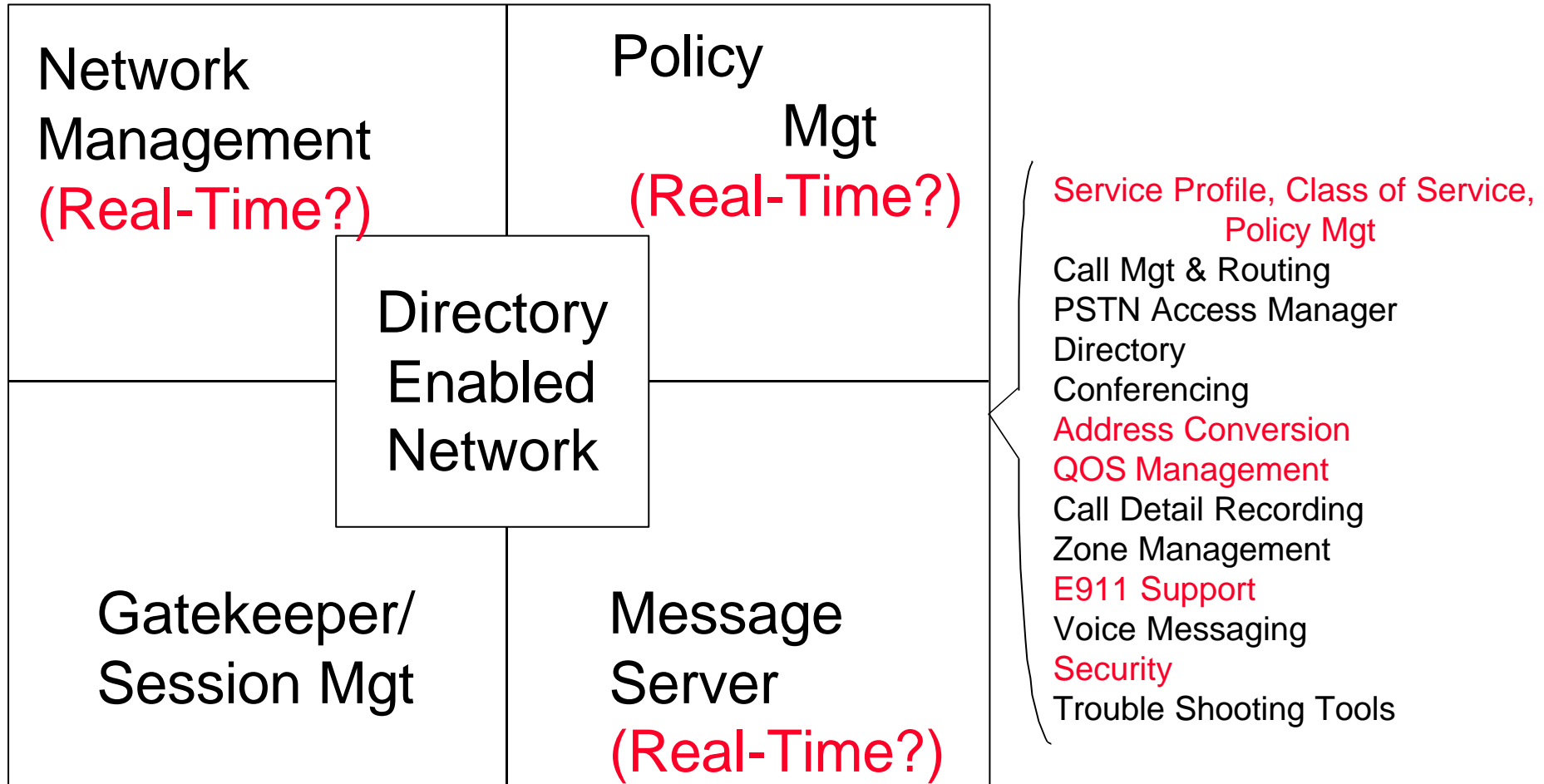
# Boeing VOIP Strategic Architecture

Phantom Works  
Mathematics & Computing Technology



# VOIP Services

Phantom Works  
Mathematics & Computing Technology



# *Real-Time Roles in VOIP*

---

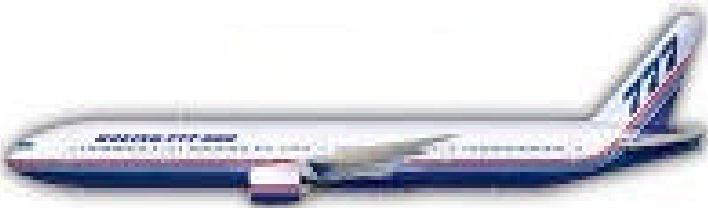
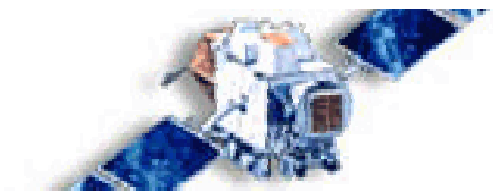
Phantom Works

Mathematics & Computing Technology

- QoS
- Location
- Security

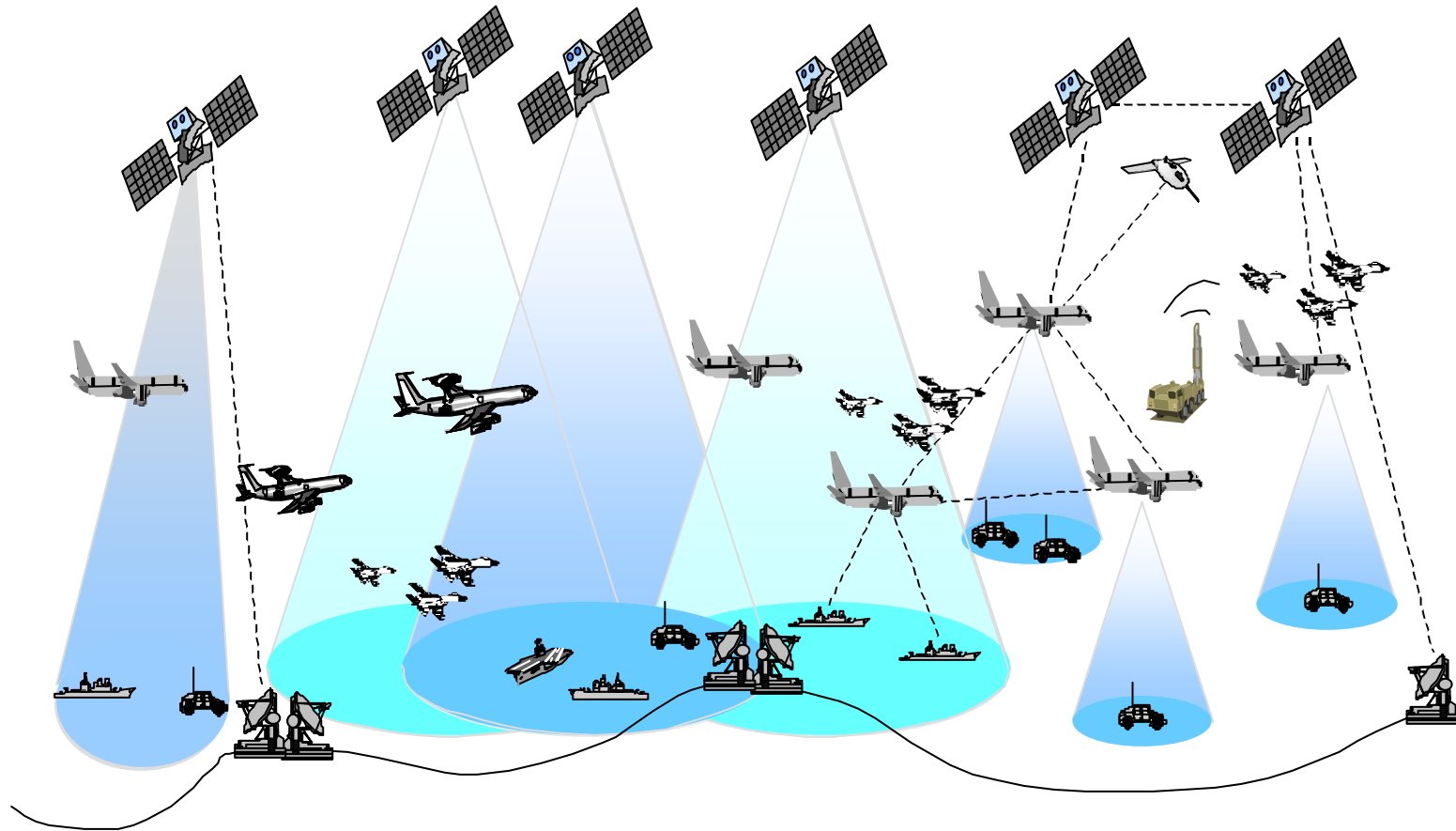


# Mobile Networks



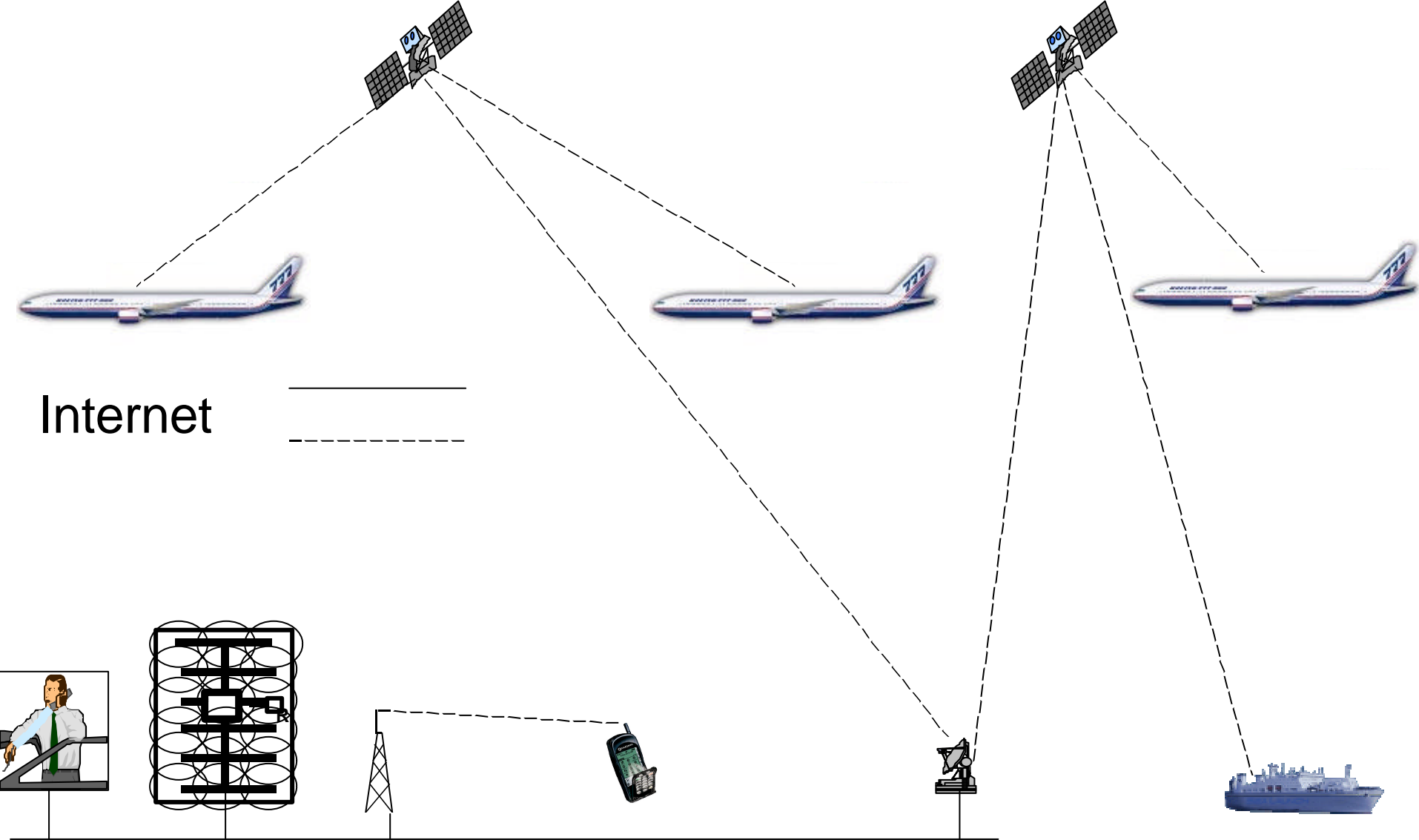
# Battlefield

Phantom Works  
Mathematics & Computing Technology



# Commercial Counterpart

Phantom Works  
Mathematics & Computing Technology



# *Real-Time Roles in Mobile Networks*

Phantom Works

Mathematics & Computing Technology

---

- **Security**
- **QoS**
- **Location**



# Real-Time Issues for Wireless & Mobility

Phantom Works

Mathematics & Computing Technology

---

- **QoS for wireless PANs, LANs, MANs, WANs**
- **Real-Time Management of Location (E911)**
- **Directory standards for ad hoc networks**

