JPL Information Services

National Aeronautics and
Space Administration

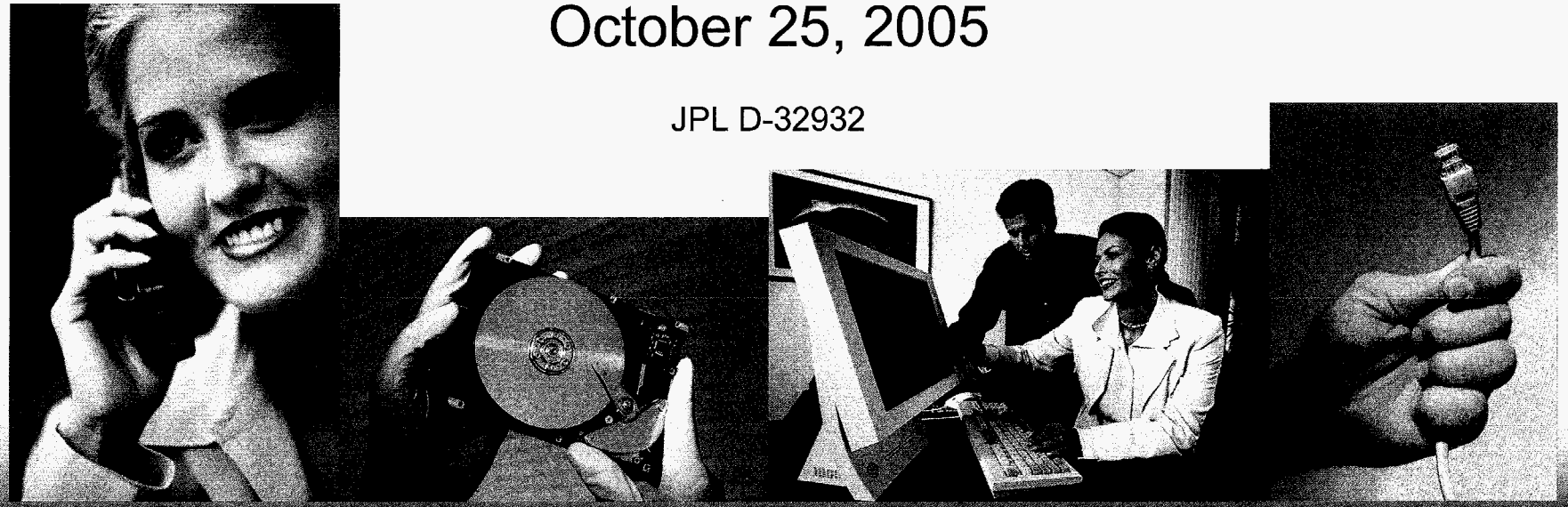
Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

Using Chargeback to Meet Customer Demand and Drive Continuous Improvement in IT Services

Gordon Campbell
JPL Desktop Computing Office

October 25, 2005

JPL D-32932



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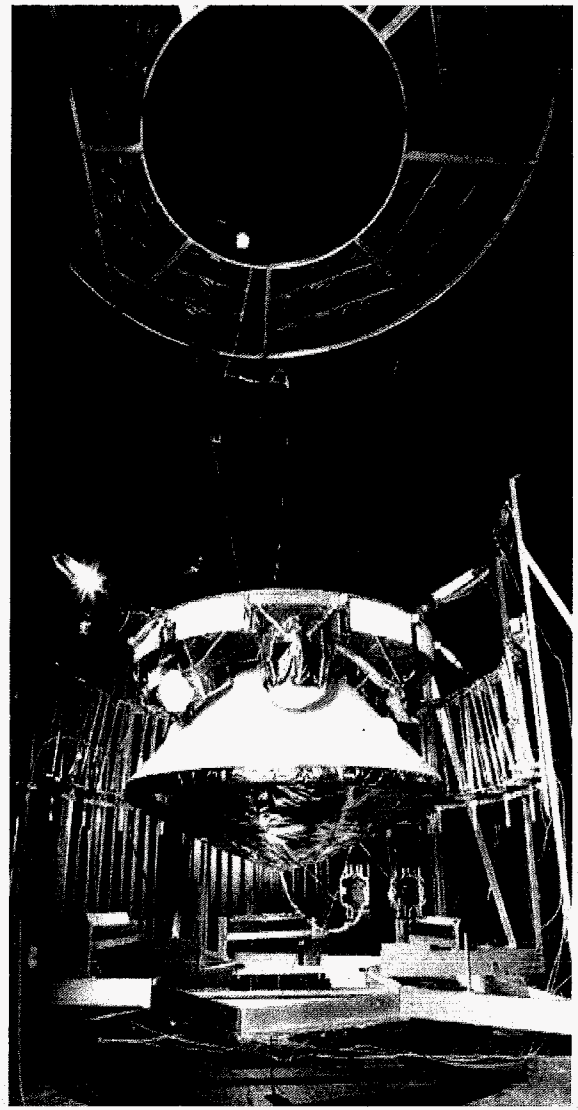
Agenda

- NASA/JPL, its mission, and its strategic focus
- IT services at JPL
- The case for chargeback
- Unified Charging System (UCS)
- Some of the technical details
- Questions and discussion



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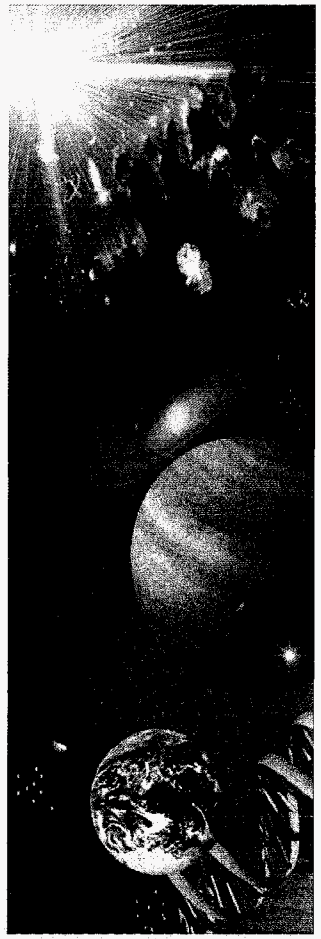
JPL: Its Mission and Focus



- *NASA Vision:*
  - To improve life here
  - To extend life to there
  - To find life beyond
- *NASA Mission:*
  - To understand and protect our home planet
  - To explore the universe and search for life
  - To inspire the next generation of explorers as only NASA can

IT Policy Statement

Trust and good judgment are emphasized, with individuals personally responsible for their use of the information technology infrastructure

- JPL provides technically advanced information technology services to create and maintain an environment that increases productivity, enhances information flow, and improves technical and administrative skills. Information will be protected from unauthorized disclosure, destruction, or modification while processed, stored, or disseminated
- All information technology resources receive security considerations. Anyone who uses, manages or purchases information technology resources bears responsibility for ensuring that integrity, availability, and confidentiality are not compromised

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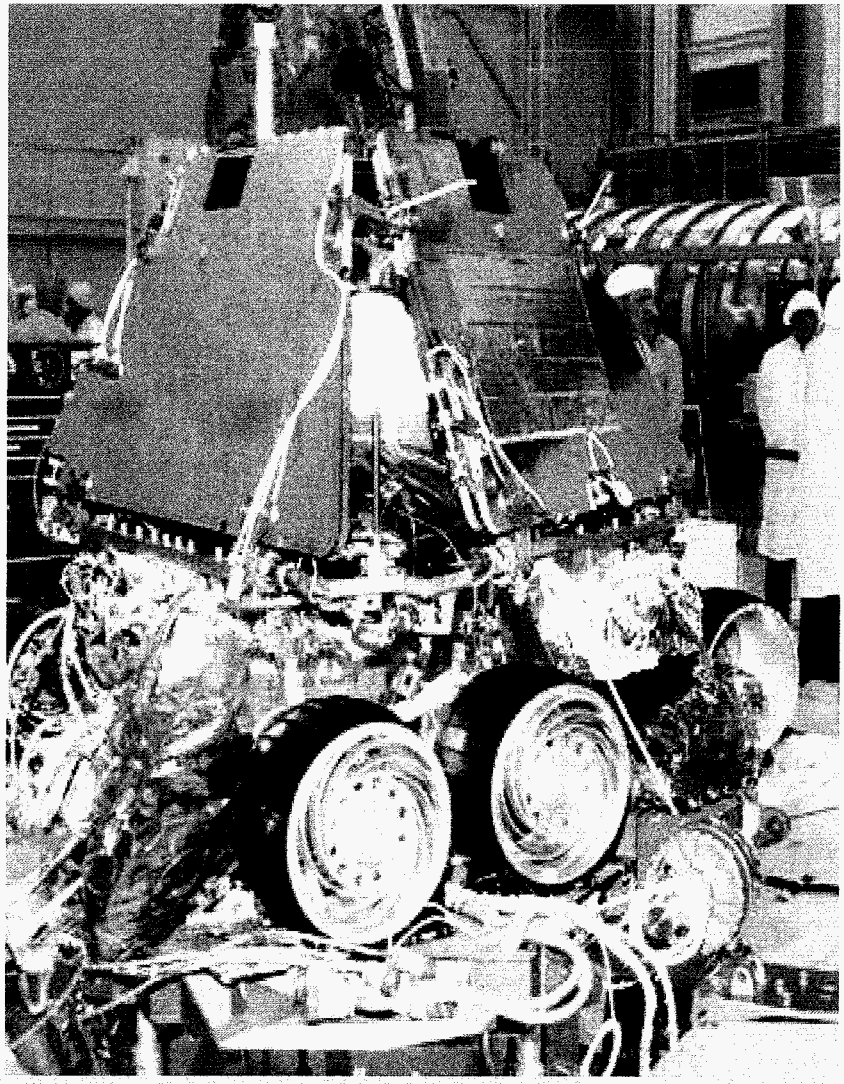
Business as Usual

- IT development funded through burden
- IT operations funded through chargeback
- Funding/pricing has remained static or gone down for five years
- Service delivery continues to improve over the same period



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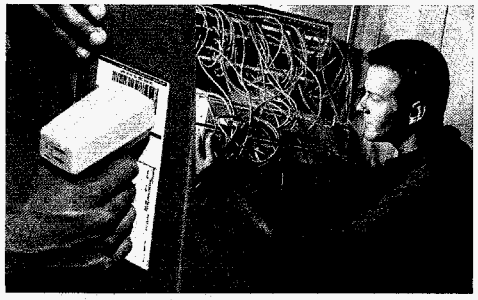
IT Funding

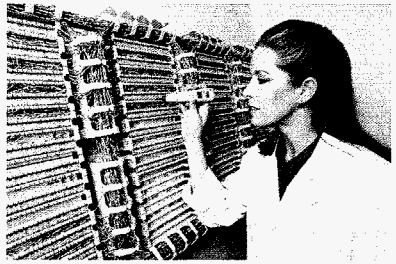


Initial deployment

Operations

Service development (Burden supported)

Service operations (Chargeback supported)



Maintenance

Major upgrades

Sustaining

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IT Services

- Chargeback services
  - Network
  - Desktop computers/support
  - Telephones/cell phones
  - Email
  - Calendaring
  - Directory
  - AFS
  - Security
  - System administration
  - DocuShare library
  - Portal
- Engineering and development
  - VoIP
  - Portal development
  - Product Data Management System
  - Collaboration suites
  - Single sign–on
  - ITAR compliance
  - Supercomputing

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Some Examples

Item	Burden funded	Chargeback funded
Network	Single lab-wide network	Port usage
Email	Email upgrade	Email accounts
Desktops	Desktop contract management	Desktop hardware and support
VoIP	VoIP infrastructure	VoIP monthly charges

The Case for Burden-Funded Development

- Development and infrastructure are expensive
- Rational decisions need to be made before investing in development
- Funds for development come from scarce investment resources and are allotted as a result of "investment competition"
  - Need
  - Return on investment

The Case for Chargeback-Funded Operations

- IT and IT services are provided to those who need and use them
- Employees pay for what they use, no subsidies from employees who underutilize services
- Cost allocation for IT and IT services follows employees' timecard charges
  - Costs are level loaded over time—no startup costs
  - The project using the employees' time also pays for their IT resources
- Service providers need to provide the expected level of service at prices considered to be competitive

Benefits of Chargeback

- Users are offered choices and are responsible for balancing cost and functionality
- Chargeback gives managers a good SLA and $$ comparison
- Declining funding spiral at end of life provides market pressure to keep up with customer needs
- Because development is burden funded, end-user services are priced similarly to those in the commercial market place
- Services provided commercially can take advantage of the chargeback system

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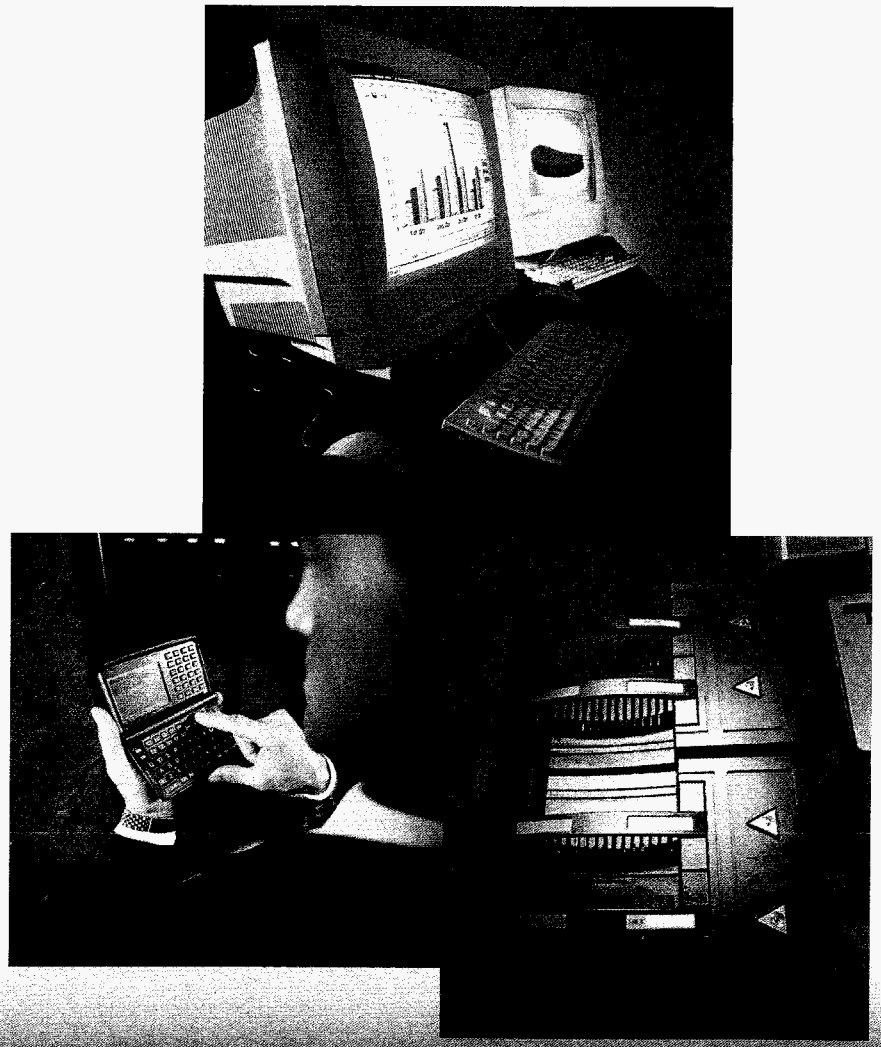
Drawbacks of Chargeback

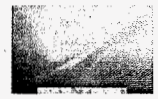
- Customers are responsible for their charges, meaning that customers can be irresponsible with their charges
- We can't "go out of business" without transitioning our customers
- Better IT choices often seen as a perk rather than based on need to get the job done

"Standardized Choice" of Hardware

- Users have choice but must be responsible
- Catalogs offer enough choice to meet user needs and eliminate "shoppers"
- Fixed price, lower quality provisioning leads to profits for suppliers and dissatisfaction for users



Hardware Catalog

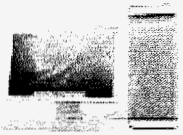


20" G5 2 GHz iMac, 1 GB RAM, SuperDrive, OS X v 10.4
Recommended for the Business Professional
20" G5 2 GHz iMac, 1 GB RAM, SuperDrive, OS X v 10.4 More Details...

Monthly Cost: $58.28 **Add to cart**

15" Aluminum PowerBook G4 1.67 GHz
Recommended for the Business Professional
15" Apple PowerBook G4 1.67 GHz, 1 GB RAM, SuperDrive, OS X v 10.4 More Details...

Monthly Cost: $77.15 **Add to cart**



Power Mac G5 Dual Processor 2.3 GHz
Recommended for the Scientist/Engineer
Power Mac G5 Dual 2.3 GHz, 250 GB serial ATA HD, 1 GB, DVD-R/CD-RW, 10/100/1000 Ethernet, ATI 9650 XT Pro- 250 MB, 2 FW 400, 1 FW 800, 3 USB 2.0 Ports, Apple Pro Keyboard/ Mouse, speakers, OS 10.4 More Details...

Monthly Cost: $72.33 **Add to cart**

HP Compaq nc6000 1.8GHz, Traveler
Recommended for the Business Professional
HP Compaq nc6000 1.8GHz, 1.0GB memory, 60GB hard disk, 14.1" screen, Windows XP Professional More Details...

Monthly Cost: $71.99 **Add to cart**

Cell-Phone Catalog

JPL Telecomm Service

Home
About Us
Get Started
Telephones
Cell Phones
Pagers
Fax Machines
Voice Mail
Teleconference
View Charges
Library
Help

Index
Feedback
Credits

Search JPL
Adv Search | Hints

TCIS

Cell Phones Cell Catalog | Calling Plans | Cell Loan | Return Form | Special Request Form | Org Rep Lookup | FAQ | Text Msg Cell | Tel

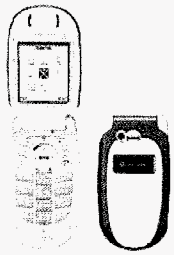
See Calling Plans for additional charging options

- Upgrades only permitted after completion of one-year term
- Works both domestically and internationally (900 MHz only)

Features and Accessories

○ Upgrade
Place Order

Motorola V551



JPL Purchase Cost: **$00.00** (until 09-30-05)
Monthly Cost: **$33.99**

Note: This phone contains an integrated camera and is not allowed in certain restricted areas at JPL, and may not be allowed in some corporate partner's and sponsor's facilities.

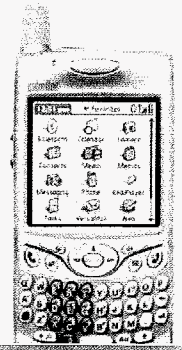
See Calling Plans for additional charging options

- Upgrades only permitted after completion of one-year term
- Works both domestically and internationally (900/1800 MHz)

Features and Accessories

○ Accessories
○ New
○ Upgrade
Place Order

PalmOne Treo 650



Purchase Cost: **$249.99**
Monthly Cost: **$33.99**
Default Data Plan: **$39.99** (unlimited plan)

Note: This phone contains an integrated camera and is not allowed in certain restricted areas at JPL, and may not be allowed in some corporate partner's and sponsor's facilities.

See Calling Plans for additional charging options

- Upgrades only permitted after completion of one-year term
- Replacement phones (lost or broken) within first year will be charged at full retail price ($599.99)
- Works both domestically and internationally (900/1800 MHz)

Features and Accessories

○ Accessories
○ New
○ Upgrade
Place Order

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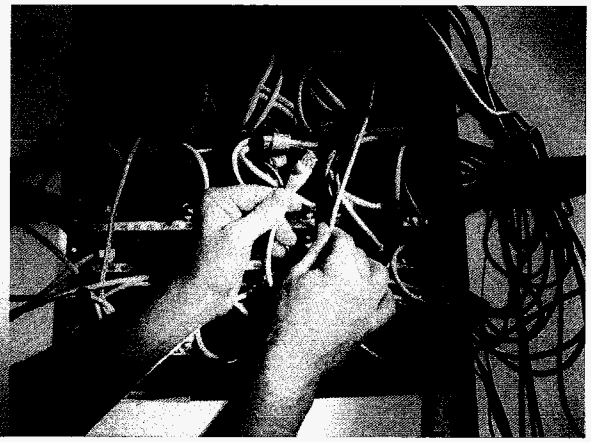
Practical and Technical Aspects of UCS

- Subscription
  - Who—User identified by badge number
  - What—Charge to timecard or specified account
  - How Much—Cost of the service provided
- Subscriptions are added or deleted by the user working with the service provider
- The service provider sends subscription information to UCS daily
- UCS interfaces with Oracle to distribute costs to user time charges or specified accounts



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Unified Charging System

What is UCS? Bulletins Services & Fees System Requirements User Subscriptions Lookup

Logout Help JPL

OAO-044803	APPLE	202-209	DNS Replenishment Srvc	$191.09
OAO-047040	HP	202-209	DNS Replenishment Srvc	$102.72
OAO-027166	HP- Network Printer	202-209	DNS Replenishment Srvc	$19.00
OAO-051868	Hewlett Packard	202-209	DNS Replenishment Srvc	$85.50
OAO-027166	HP- Network Printer	202-209	DNS Converted Loan NAD	$5.00
OAO-027166	HP- Network Printer	202-209	DNS Network Attached Devices	$19.00
OAO-051868	Hewlett Packard	202-209	DNS Network Attached Devices	$19.00

Network Service (NET) ? add

Port Number	Location	Service Type	Charge		
202-2-1-44-A	202-209	NET Bandwidth_Adj_10_100Mbps	$34.00	reassign	delete

Telecommunications Service (TEL) ? add

Phone	Vendor	Description	Status	Charge Date	Service Type	Charge
8182124445	Verizon	Wireless Card	ACTIVE	29-AUG-05	TEL Subscription	$.00
8183542848	Pac Bell	Desktop phone	ACTIVE	29-AUG-05	TEL Subscription	$.00
8183544357	Pac Bell	Desktop phone	ACTIVE	29-AUG-05	TEL Subscription	$.00
8183544848	Pac Bell	Desktop phone	ACTIVE	29-AUG-05	TEL Subscription	$.00
8183549090	Pac Bell	Desktop phone	ACTIVE	29-AUG-05	TEL Subscription	$.00
8184556738	Cingular	Cellular phone	ACTIVE	29-AUG-05	TEL Subscription	$.00
8186530839	Cingular	Cellular phone	ACTIVE	29-AUG-05	TEL Subscription	$.00
8186530839	Pac Bell	Other service	ACTIVE	22-AUG-05	TEL Subscription	$.00
8186535338	Cingular	Cellular phone	ACTIVE	29-AUG-05	TEL Subscription	$.00
8186539211	Cingular	Cellular phone	ACTIVE	29-AUG-05	TEL Subscription	$.00

Telecommunications Charges for Previous Fiscal Month

Phone Number	Charge Date	Service Type	Charge
8182124445	03-AUG-2005	TEL Verizon Equipment Charge W	$25.00
8183542848	26-AUG-2005	TEL Pac Bell Monthly Cost	$46.49
8183544357	26-AUG-2005	TEL Pac Bell Monthly Cost	$31.58
8183544848	26-AUG-2005	TEL Pac Bell Monthly Cost	$31.58
8184556738	16-AUG-2005	TEL Cingular Equipment Charge	$294.98
8184556738	17-JUL-2005	TEL Cingular Total Var Costs	$92.56
8186530839	03-AUG-2005	TEL Cingular Equipment Charge	$25.00
8186535338	17-JUL-2005	TEL Cingular Total Var Costs	$66.32

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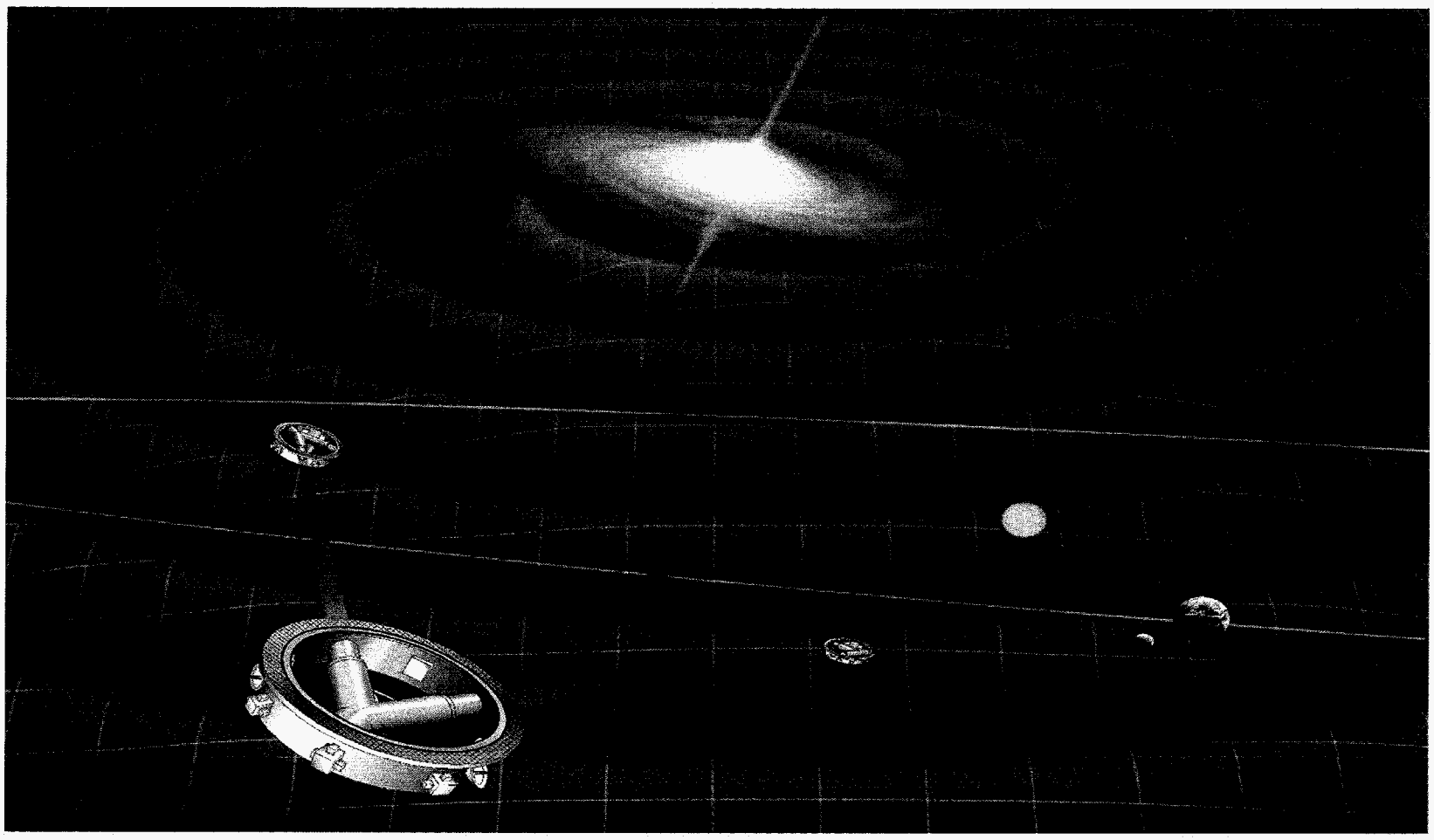
Questions/Discussion