National Aeronautics and Space Administration

Vision and Priorities in Information Technology at NASA

Office of the Chief Information Officer

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NASA CIO

Office of the Chief Information Officer

Leadership Thought

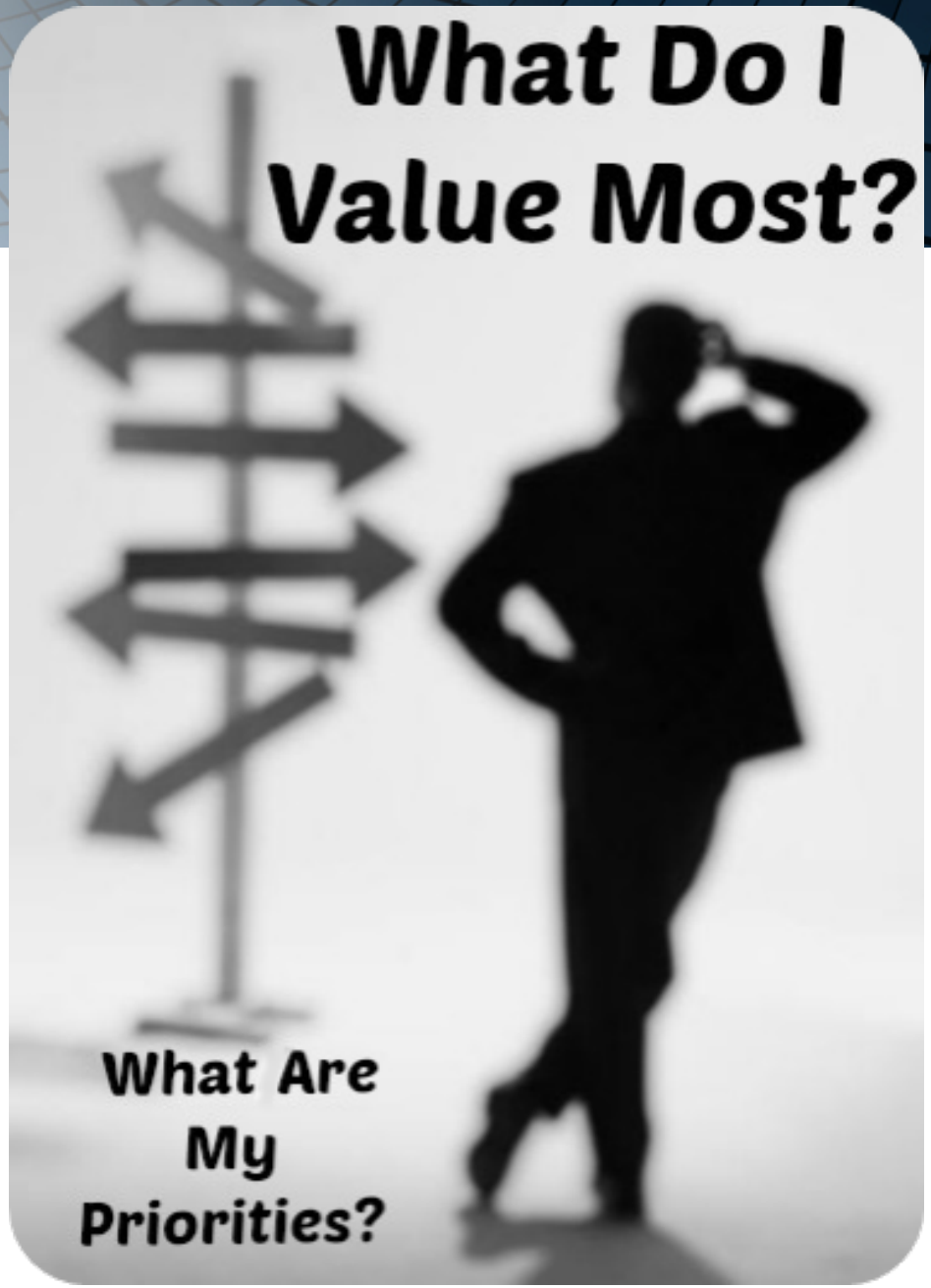
A leader takes people where they want to go!

A <u>great leader</u> takes people where they don't necessarily want to go, but where they ought to be!

CIO Vision

"We should enable the mission and move with purposeful intent towards improving IT services at NASA"

- To provide value-added services as seen by our customers
- To be customer focused – "not just doing IT for IT's sake"
- To be connected to our many federal initiatives
- To protect our national assets – improve IT Security
- To seek out inefficiencies and reduce costs in our current programs – "thinking like an Agency"
- To maximize, to the extent possible, the use of Enterprise and shared services
- To be forward thinking, leveraging new IT advancements where IT benefits NASA and makes NASA better –"shape our future"


What Do I
Value Most?
What Are
My
Priorities?

Top Priorities

- **Enable the NASA Mission** – Implement integrated, secure, and efficient IT, information systems and processes that improve the ability of NASA employees to accomplish program objectives and meet mission milestones
- **Improve Cyber Security** - Ensure that NASA data is more secure. Our equipment and information must be protected against vulnerabilities and breaches
- Refine NASA's policies and position on mobility and bring-your-own-device (BYOD) to further enable **Work From Anywhere**
- Improve IT Governance of Institutional IT
- Continue Agency network transformation
- Enable cross-Center collaboration and data sharing to support mission execution
- Improve the enterprise architecture to guide IT planning decisions
- Implement a data management solution for the Agency

Common IT Center Challenges

- Concerns for Enterprise Services
- Development of a proactive and preemptive Security program with improved user education (behaviors)
- An aging and retiring workforce
- Vendor Management
- Enabling a growing and flexible mobile workforce – use of personal devices
- Taking advantage of the Cloud offerings (SaaS, IaaS, PaaS, etc.)
- Staying up with evolving technologies
- Dwindling budgets across the Federal Government with no end in sight

What is the OCIO Working On?

- Mobile Device Management - policy to govern the use of personal devices to better enable work from anywhere and teleconferencing
- Increasing the use of commercial cloud services. Educating employees on the WestPrime Contract
- Improving NASA's IT Infrastructure Integration Program (I3P)
- Network Transformation
  - Consolidated Corporate Network Ops Center (C2NOC) used by all 10 Centers
- Building Trusted Relationships between Centers and NASA HQ
- Better connecting HQ OCIO functions and responsibilities to Center counterparts (ex. Agency CIO to Center CIOs, Agency CISO to Center CISOs, etc.)
- IT Security Transition from Reactive to Predictive
  - Continuous Assessment of our infrastructure
  - Real time situational awareness of assets, vulnerabilities, and threats to enable us to better predict, assess, and mitigate risk to Missions and institutional operations

How about IT Security?

None of our enterprise services would be possible without a secure network.

- Every day we are introduced to new technologies, threats, and challenges that we never imagined.

Top security priorities:

- To strengthen and protect the NASA IT infrastructure
- Create opportunities to share information and solutions that leverage our core competencies across NASA
- Explore new horizons and innovations with other Federal Agencies to increase our collaboration, strengthen our security posture, and optimize efficiencies through shared solution sets

Watch Out for Phish!

Phishing is one of the most common attacks

Generally these attacks will be via e-mail. An attacker will pose as a legitimate business or organization requesting personal information for validation or promise of some sort of product or upgrade.

These e-mails will frequently contain a link to fraudulent webpages, similar in appearance to legitimate sites, and will request usernames, passwords, PINs, or other key information.

Some OCIO Accomplishments

- Doubled electronic-mailbox size
- Encrypted all laptops (DAR)
- Improved backup solutions through the ACES Contract
- Significant savings under a new Web Services Contract and implementation of Lync for collaboration
- Increased Smartcard use across the Agency (50% target for end of year)
- Implemented 34 security program initiatives
- Implemented an Agency-wide interim Supply Chain Risk Management framework (Section 516)
- Expanded partnerships with other Government Agencies and commercial partners to identify best practices
- Enterprise License Management Team (ELMT) at the NASA Shared Services Center consolidated 21 software solutions and is currently working on another 10 this fiscal year

NASA IT Consolidation

- Over the last 5-10 years, NASA has moved toward more centralization of IT applications and infrastructure services by:
  - Data Center Consolidations
  - Consolidating Agency Business and Management Systems
  - Migrating to a single forest, single domain Active Directory infrastructure servicing the entire Agency
  - Consolidating to a single Agency email infrastructure, standardizing desktop management
  - Implementing enterprise license management for licenses such as Oracle and Maximo
  - Deploying a single, centralized identity and IT access management infrastructures

Improving IT Governance

- 2013 approved Phase II of the governance mode
  - Designed to reduce duplication and improve efficiencies across the Agency
  - Ensures that stakeholder needs are being addressed
  - Ensures investments are performing adequately during implementation and operations
- New implementation plan that maximizes the use of the Agency governing structure
  - Streamlines decision making
  - Increases stakeholder involvement
  - Provides greater visibility into IT investments

Governance Benefits

- **Improved Agency visibility into IT Investments**
  - seeking out duplication and unnecessary redundancy
  - help maximize existing capabilities (enterprise services)

- Ultimate Goal: **Optimize the use of IT funds** to ensure the Agency receives the greatest value for its investments

Looking into the near *Future*

Thoughts of where NASA IT is going:

1. **Big Data and Data Analytics**
2. **Mobility** – working from anywhere, any Center, anytime , and on any device
3. **Improved security** at the data source
4. **Internet of everything** – people, processes, things, data
5. **Leveraging Center capabilities** as an Agency service – not just 10 separate center services
6. OCIO role as “brokers” and “consultants” of these services

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