<u>Building Architectures for New Challenges in Space and the Budget</u>

Remarks to the National Security Space Policy and Architecture Symposium

June 28, 2011

Ambassador Gregory L. Schulte
Deputy Assistant Secretary of Defense for Space Policy

"In less than a generation, space has fundamentally and irrevocably changed." Thus writes Secretary Bill Lynn, the Deputy Secretary of Defense, in the latest Washington Quarterly.

Space is increasingly a shared domain in which we operate with more and more space-faring countries – both close allies and potential adversaries. Space is increasingly <u>congested</u> with increasing amounts of space debris; <u>contested</u> by a growing range of foreign counterspace capabilities; and <u>competitive</u> as more and more countries and companies operate in space. These "three C's" pose new challenges for U.S. security.

In response to these challenges, Secretary Gates approved a new National Security Space Strategy earlier this year. Responding to Congressional questions, Secretary-designate Panetta has already stated his intention to continue the strategy's implementation.

The new National Security Space Strategy is significant in three regards:

- it is the first ever signed by a Secretary of Defense;
- it was co-signed by the Director of National Intelligence, meaning that it applies to the full range of national security activities in space;
- it signals that – just as the space environment has changed –the way we advance our national security through space must also change.

The new strategy establishes three broad objectives. One is obvious and enduring: to maintain and enhance the strategic advantages that we derive from space. The other two are newer but equally important: to strengthen safety, stability, and security in space; and to energize our industrial base.

In short, in addition to protecting the advantages we derive from space, we must also protect the domain itself and the industry that provides our capabilities. Once, we could take space and our space industry for granted. We cannot any more.

To meet these three overarching objectives, the strategy establishes five strategic approaches:

- promoting responsible use of space;
- providing improved space capabilities;
- partnering with foreign countries and the commercial sector;
- preventing and deterring aggression against space infrastructure;
- preparing to defeat attacks and operate in a degraded environment.

I urge you to read the strategy. An unclassified summary is available on the DoD website.

At this conference, you are contemplating how to translate policy and strategy into capabilities and architectures. Based on the new strategy, I encourage you to pursue three lines of thought:

- designing resilience into our architectures;
- integrating allies into our architectures;
- developing architectures for a funding-constrained future.

Designing Resilience into Our Architectures

One of the "three C's" driving the new strategy is the increasingly contested nature of space.

During the Cold War, space was the private reserve of the United States and Soviet Union. It was the "high frontier" from which we could support our national security with near impunity. This is no longer the case.

A variety of countries are developing counterspace capabilities. The most obvious is China, with its 2007 test of a direct-ascent ASAT. China is investing in a broad range of anti-space capabilities, including jammers, lasers, and other technologies. While we see attacks on space assets as provocative and escalatory, Chinese military writers see them as an integral part of modern "informationalized" warfare, to be employed early in a conflict, not as a last resort.

China is not the only concern. The increasingly contested nature of space is also evident in the jamming of communications satellites by countries as varied as Iran, Libya, and Ethiopia. A country that can jam Voice of America can also jam military communications transmitted by the same satellites. Even non-state actors have demonstrated a sophisticated understanding of space technology. Before their defeat, the Tamil Tigers were accused of hijacking satellite transponders to broadcast propaganda.

Interference with space systems is not just a concern for high-end contingencies. As Secretary Lynn writes in The Washington Quarterly, "Irregular warfare has come to space." We must be ready to defeat such attacks but also to operate in a degraded environment. Resiliency assumes growing importance.

As we invest in next generation space capabilities and fill gaps in current capabilities, the National Security Space Strategy directs us to include resilience as a key criterion in evaluating alternative architectures.

Resilience is not the property of a single system. Rather, it is the ability of a whole architecture to provide functional capabilities necessary for mission success despite environmental adversity or hostile action.

Resilience can be achieved in a variety of ways in space and beyond. These include system protection, cross-domain solutions, hosting payloads on a mix of platforms, leveraging foreign capabilities, and maturing responsive space capabilities.

The launch of ORS-1, scheduled to light up tonight's sky to the east, demonstrates one means to achieve resilience. But resilience cannot be an experiment or the exception. In an increasingly contested environment, it must be institutionalized into our architectures.

With this in mind, the Secretary has directed us to develop a definition for resilience and criteria for assessment. The definition and criteria will assist the Department in evaluating future architectures and assessing alternatives. We can no longer think only in terms of cost and capability, but also whether that capability will be available when the warfighter needs it and an adversary seeks to deny it.

Integrating Allies into Our Architectures

Our future architectures should not only provide resiliency against adversity, they should also provide for partnership with allies. Indeed, international cooperation is a key tenet of the new National Security Space Strategy.

Space is a domain in which we once operated alone. Increasingly, however, we need to think of operating in space as we do in other domains: in coalition.

Allies like France, Japan, Germany, and Italy have increasing space-based capabilities in mission areas ranging from SSA to ISR. Our architectures should seek to leverage their systems in order to augment our capabilities, add diversity and resilience, and complicate the decision-making of potential adversaries. Cooperation can also better enable coalition operations on land, at sea, and in the air, which for our allies and us are increasingly dependent on space-based capabilities.

The Air Force's Wideband Global Satellite (WGS) system provides a good example. Our close ally Australia has bought into the system, and the Air Force is exploring similar arrangements with other allies. This approach has increased the size and capacity of the constellation.

Internationalizing WGS also complicates the calculations of any country contemplating interference with the system.

The Navy has also taken a pragmatic approach to international cooperation, recently signing an Memorandum of Understanding with Australia that grants the U.S. use of channels on an Australian-hosted payload covering the Indian Ocean region. In exchange, the United States will provide the Australian Ministry of Defense use of equivalent UHF SATCOM accesses in the Pacific Ocean region starting in 2018. We should look for similar opportunities with other systems and in other mission areas.

Led by General Kehler at STRATCOM, the Department is working to transition today's Joint Space Operations Center into a Combined Space Operations Center. A CSpOC will enable and encourage coalition operations. It will provide a mechanism for information sharing and centralized tasking while also helping to identify capability gaps.

Our architectures must reflect this new emphasis on coalition operations and help identify where allied contributions can have the greatest payoff.

Developing Architectures for a Funding-Constrained Future

The new strategy builds on the "three Cs" -- congested, contested, and competitive -- but must be implemented in the context of a fourth -- constrained. Indeed, as we develop future architectures, the growing challenges of the budget deserve our attention as much as the growing challenges in space.

Secretary Gates said last month that "the proverbial 'low hanging fruit' – those weapons and other programs considered most questionable – have not only been plucked, they have been stomped on and crushed. What remains are much-needed capabilities…that our nation's civilian and military leadership deem absolutely critical." I note that his list of absolutely critical capabilities included space.

I also note that space was not decremented in the Secretary's earlier "efficiencies" drill. Indeed efficiency savings from across the Air Force were reinvested in space to increase and stabilize the production of launch vehicles.

But we must not assume that space is immune from budget reductions, particularly as the Administration looks for $400 billion in national security reductions over the next ten years.

I have heard some argue that we cannot afford the National Security Space Strategy under such budget constraints. I disagree. In fact, we CANNOT afford NOT to implement the strategy.

Past approaches have trapped us in a vicious cycle of delayed capability, mounting cost, and increased vulnerability. The new strategy opens potential paths to containing cost while still building capability and resilience. It calls for leveraging commercial capabilities. It encourages options such as hosting payloads on commercial satellites. And it advocates taking advantage of foreign capabilities to augment our own.

This points in many mission areas to mixed constellations of government, commercial, and foreign systems using a greater number of simpler, less-expensive spacecraft or hosted payloads to assure essential capabilities. In some cases, it may even point to purchasing services rather than hardware.

Future architectures must take advantage of these opportunities, rather than condemning us to approaches that we cannot afford in a tight budget environment or leave our warfighters vulnerable to "a day without space" -- potentially for weeks at a time.

Architectures that provide "good enough to win" capabilities in a degraded space environment may better sustain our strategic advantage than capabilities that are exquisite but expensive and vulnerable.

Done right, such architectures might also provide a steady requirement to industry, thereby energizing our industrial base – another key objective of the new strategy.

<u>Conclusion</u>

"Space has fundamentally changed, and our national security strategy must change with it." So writes Secretary Lynn. We have a new strategy. The hard part now is implementation.

Secretary Lynn has charged oversight of implementation to the new Defense Space Council, chaired by Secretary Donley, in his revalidated role as DoD Executive Agent for Space.

A key starting point in implementation is the development of future architectures. These architectures must provide essential capabilities and increased resilience in face of mounting challenges in both space and the budget.

We need your support and advice as we develop these architectures and protect the strategic advantage that our country and our allies derive from space.