

REACHBACK FOR THE SQUAD

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The Army should exploit reachback technology to counter the threat to the crews and squads of our Infantry fighting vehicles (IFVs) that an enemy with capable and numerous anti-armor weapons poses. Reachback is “the process of obtaining products, services, and applications, or forces, or equipment, or material from organizations that are not forward deployed.”¹ Enabled by secure Internet-like connections, we already use reachback capabilities to obtain a variety of support functions for forces forward deployed from troops or civilian employees as far away as the continental United States that at one time could only be provided by support units in theater. By using reachback technology, we could provide the future IFV with a full actual/virtual squad for mounted operations. This manning concept would retain combat power for a smaller but more capable expeditionary Army, help mitigate force protection paralysis that could preclude efforts to achieve decisive victory, and instead make a positive contribution to force protection by reducing the actual manned infantry complement of the future IFV.

During the Iraq War, I often cringed at the thought of Marine amphibious assault vehicles (AAVs) being used as infantry carriers. We were fortunate not to experience more catastrophic hits on those vehicles. As we seek to regain full-spectrum ground combat capabilities by renewing our force-on-force combat training, we must cope with the reality that a future Army IFV with a full squad operating against a capable conventional enemy could make our smaller future Army

heavy forces pay too high a price to continue their missions.

In 2002, while discussing what type of Abrams tank replacement was needed to equip a strategically deployable Army, among other observations I wrote that the replacement for our Cold War-era heavy force armored vehicles would need a version to replace the Bradley Fighting Vehicle (BFV) that could carry a fire team-sized infantry element capable of exploiting technology to call in distant firepower from a variety of sources for force-on-force combat.² A smaller infantry element on a future IFV would also minimize casualties when a fully crewed IFV is destroyed.

Today, the idea for fewer mounted infantry remains an active option for our heavy forces. The replacement for our current IFV may only provide for a small infantry complement, according to more current thinking as the Army debates its assessment of the Army’s approach for developing future Army combat vehicles.³ Indeed, the Armored Multi-Purpose Vehicle (AMPV), the planned replacement for the venerable M113, has room for only six passengers in addition to two crew.⁴

The IFV required enough space to carry an Army squad. A future vehicle may only need to carry a fire team. Even as we foresee the need for less than a full infantry squad on a future IFV, the problem remains that full infantry squads are still important even in an era when technology-enabled “hyper-

Soldiers with the 3rd Brigade Combat Team, 4th Infantry Division move out on a mission as part of Decisive Action Rotation 16-09 at the National Training Center, Fort Irwin, Calif., on 27 August 2016.

Photo by PFC Jordan Roy



infantry” is within reach. If we rely on even more precise and responsive distant firepower from other branches and services to compensate for fewer hyper-infantry, yes, a networked force can provide us with the capability of “covering more ground with fewer boots[.]”⁵

But we can’t cover more people with fewer boots. What will we do in peace operations, counterinsurgency operations, or even urban terrain warfare? In cities (or worse, megacities), the ground itself collapses around the Soldier with a much shorter sight line and additional difficulties remaining connected to the Army network. A small fire team-sized squad is capable of fighting in conventional combat if it has timely access to firepower. It will be inadequate for manpower-intensive operations.

Reachback technology offers a means to achieve force protection without reducing heavy force combat capabilities by striking a balance between mitigating the effects of catastrophic hits on our IFVs, exploiting the possibilities of hyper-infantry in high-intensity combat, and conducting troop-intensive operations. We could design our future infantry fighting vehicle to have room for only a fire team — the actual onboard fire team for mounted operations — without losing the full squad by exploiting reachback technology within a battalion’s battlespace rather than the globe-spanning reachback we use for other types of support.

The rest of the squad — the virtual fire team — would remain in the battalion headquarters where it would operate two remote weapon stations on the IFV via the battalion-level Warfighter Information Network-Tactical and the company and below Joint Tactical Radio System. These remote weapon stations would supplement the organic firepower of the IFV and the mounted actual fire team (when the infantry dismounts).

Naturally, such a pairing of actual and virtual fire teams will require a battlefield network that provides trusted access, assured connectivity, and interoperability.⁶ One can accept a delay when watching cat videos on Internet. On the battlefield, there can be no lag and no worries about who is operating the remote weapon station behind your dismounts.

In a perfect mechanized infantry world, you don’t slow down the advance to the speed of walking infantry. If “dropping the rear ramp slab just slow[s] down the whole operation,” why not make the future IFV more capable of supporting the tanks without dismounting the infantry?⁷

The virtual fire team operating the IFV remote weapon



Photo by Katie Cain

Paratroopers from the 3rd Brigade Combat Team, 82nd Airborne Division use Joint Tactical Radio System radios to communicate during a field exercise at Fort Bragg, N.C., in March 2011.

stations would provide additional protection for the IFV and accompanying tanks and support vehicles.

In exceptionally high-threat anti-armor environments, the IFV would fight without an onboard fire team, relying on the virtual fire team to operate its remote weapon stations for additional surveillance and mounted firepower.

Or, our heavy battalions could order their IFVs to operate using mixed actual and virtual fire teams, deploying the IFVs with virtual fire teams forward and keeping the actual fire team-manned vehicles in the rear positions in case dismounts are needed. The dismounted infantry would have the additional support of the virtual fire teams manning their IFV remote weapon stations.

Virtual fire teams kept at battalion headquarters would also be available as a virtual reserve, allowing battalion commanders to rapidly assist companies in heavy dismounted combat that requires the full infantry squads on the ground. This reinforcement could be achieved by committing the virtual fire teams of an unengaged company to operate remote weapon stations (or deployable robotic systems) on the IFVs of a company in contact with the enemy.

To mitigate physically overburdening the smaller IFV crew and actual fire team, the virtual fire team would provide vehicle protection while the actual fire team and IFV crew are performing maintenance, resting, sleeping, or even incapacitated. In the latter case, the virtual fire team manning the remote weapon stations would buy time for rescue and medical assets to reach the wounded crew and actual fire-team Soldiers who are incapable of self-defense.

Finally, the virtual fire team could rotate into the IFV role, allowing the actual fire team already there to deploy to the headquarters element where it would operate the remote

weapon stations while gaining some respite from forward operations.

Having the companies' virtual fire teams manned by troops stationed at the battalion headquarters would not remove the Soldiers from danger. After all, the virtual squad is manned by very real Soldiers. On the positive side, their physical location at battalion will keep more infantry at the headquarters capable of local self-defense should the battalion headquarters come under direct ground attack.

But the headquarters, already a target for enemy indirect fire and air attack, would need to take precautions against making fire teams casualties despite operating virtually in a theoretically safer physical location away from direct fire threats.

If remotely operated robotic weapons are part of the future IFV at some point, as the technology matures, actual or virtual fire teams could operate the unmanned weapons; or, as the technology is developed, deploy and monitor autonomous robotic systems evolved from equipment like the Special Weapons Observation Reconnaissance Detection System (SWORDS).

Indeed, if such a manned-unmanned teaming of Soldiers and robotic systems actually increases the number of Soldiers needed, even as we seek to reduce the infantry capacity of our future IFV, the actual/virtual squad concept will support such a requirement for more infantry.⁸

In that case, a squad of three fire teams could carry out the roles of the onboard actual fire team, the virtual fire team that operates IFV remote weapon stations, and a third virtual fire team that controls or monitors the unmanned systems partnered with the IFV crew and actual fire team.

This expanded full squad would provide additional fire-team rotation capabilities to keep actual fire teams more rested and effective than extended and continuous combat operations would otherwise allow.

Protecting the Soldier by removing the Soldier from exposure to the enemy is already happening. We are attempting to take the Soldier out of supply trucks (and even supply helicopters). We found that taking high mobility multipurpose wheeled vehicle (HMMWV) machine gunners from their exposed positions and putting them under armor within the same vehicle with a Common Remotely Operated

Weapon Station (CROWS) to observe, aim, and shoot, saved Soldiers' lives. There are those who foresee Army platoons with paired manned and unmanned vehicles.⁹

To save lives and preserve our ability to achieve decisive operations, "send a bullet and not a man."¹⁰ Reachback for the squad extends this thinking by sending the bullet virtually. But it isn't "just" a means to save Soldiers' lives. Force protection concerns carried to the extreme could hamper efforts to win a campaign by excluding certain actions that could be exploited for victory because those actions are likely to result in friendly casualties in the short run.¹¹

While force protection is a natural consideration for using a small, volunteer Army whose members our society values, that outlook cannot be allowed to interfere with achieving a military objective — which is presumably why the Army is committed to war.

Like the pre-World War II French army that reacted to their heavy casualties from their World War I offensives by adopting the "stylized, tightly controlled 'methodical battle'" doctrine, could we paralyze our own Army with casualty-averse caution should we face an enemy with a doctrine that seeks to achieve victory rather than minimize casualties — and get both defeat and heavy casualties?¹²

The technology that allows reachback capabilities could allow us to enhance force protection without inducing force protection paralysis that cripples our ability to fight at the high intensity conventional combat portion of the combat spectrum. If virtual fire teams can reduce friendly casualties without reducing mounted firepower for offensive operations



Photo by SSG Jason Hull

A vehicle from the 1st Battalion, 325th Airborne Infantry Regiment, 2nd Brigade Combat Team, 82nd Airborne Division, armed with a Common Remotely Operated Weapon Station II provides support by fire for maneuvering paratroopers during an exercise at Fort Pickett, Va., on 25 February 2015.



Photo by CPT John Farmer

Soldiers from Company A, 2nd Battalion, 5th Cavalry Regiment, 1st Brigade Combat Team, 1st Cavalry Division, dismount from their Bradley Fighting Vehicle during fire team live-fire certification training at Grafenwoehr Training Area, Germany.

by heavy forces, we can mitigate a fear of casualties that could paralyze attempts at decisive operations.

The use of virtual infantry fire teams is not an issue of replacing infantry with technology. It is about preserving infantry when they are “spam in a can” riding with the heavy armor for the situations when the infantry needs to dismount to achieve the mission. Taking the infantry out of our future infantry fighting vehicles — when the tactical conditions warrant it — is a logical extension of technology-driven force protection measures that can retain the flexibility of a full (or larger) squad. The Air Force already fights their unmanned aerial vehicles from the continental United States using reachback technology. We should move some of the Army’s mechanized infantry Soldiers out of the future IFV with an actual/virtual squad when possible using reachback to battalion headquarters over a robust Army network.

Notes

¹ Department of Defense Dictionary of Military Terms, http://www.dtic.mil/doctrine/dod_dictionary/data/r/11141.html.

² Brian J. Dunn, “Equipping the Objective Force,” *Military Review* (May-June 2002).

³ Sandra I. Erwin, “On Future Combat Vehicles, Army Takes Pragmatic Approach,” *National Defense Magazine* blog (19 February 2015), <http://www.nationaldefensemagazine.org/blog/Lists/Posts/Post.aspx?ID=1752>.

⁴ Kris Osborn, “Army to Roll-Out First New Infantry Carrier,” *Scout Warrior* (9 December 2016), http://www.realcleardefense.com/2016/12/09/us_army_to_roll-out_first_new_infantry_carrier_288363.html.

⁵ LTG Robert S. Ferrell, LTG Michael E. Williamson, and BG (P) Daniel P. Hughes, “Networking Force 2025,” *Army* (September 2014): 38.

⁶ “Modernizing LandWarNet: Empowering America’s Army,”

Torchbearer National Security Report (Arlington, VA: Association of the United States Army, May 2012): 5.

⁷ Daniel P. Bolger, *Death Ground: Today’s American Infantry in Battle* (NY: Ballantine Books, 1999), 147.

⁸ William Matthews, “Robot or Not,” *Army* (November 2014): 37.

⁹ *Ibid*, 36.

¹⁰ There are many ways to express the idea of saving our troops’ lives by expending ammunition. See Bolger, 19-20.

¹¹ Indeed, it is “false compassion” for our troops to let a war drag on by refusing to achieve victory quickly, which is one lesson of Iraq’s invasion of Iran in 1980. See Brian J. Dunn, “The First Gulf War and the Army’s Future” *The Land Warfare Papers* No. 27 (Arlington, VA.: Institute of Land Warfare, 1997), 15.

¹² Williamson Murray, “Innovation Past and Future,” in *Military Innovation in the Interwar Period*, ed. Williamson Murray and Allan R. Millett (NY: Cambridge University Press, 1998), 321.

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Other articles he has written include:

Military Review — “The AFRICOM Queen,” May-June 2016 (third place in the 2015 General William E. DePuy Special Topics Writing Contest); “The Path of the Future Army,” September-October 2000; “Equipping the Objective Force,” May-June 2002; and “Transforming USAREUR for a Strategy of Preemption,” November-December 2003.

Joint Force Quarterly — “Rethinking Army-Marine Corps Roles,” Autumn 2000.

Army — “Peace Enforcement: The Mythical Mission,” November 1996; “Landpower Needed for Decisive Victory,” April 1998; and “A Total Army for Total War: The Guard Divisions’ Role,” January 1999.