

DARK HAMMER

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ARMY CYBER
INSTITUTE
AT WEST POINT

BUILDING A BETTER, STRONGER AND MORE SECURE FUTURE FOR OUR ARMED FORCES

Science Fiction Prototypes are science fiction stories based on future trends, technologies, economics, and cultural change. The story you are about to read is based on threatcasting research from the Army Cyber Institute at West Point and Arizona State University's Threatcasting Lab. Our story does not shy away from a dystopian vision of tomorrow. Exploring these dark regions inspires us to build a better, stronger, and more secure future for our Armed Forces.

We re-defined how the Army operated after Vietnam to fight the Cold War. We shifted from Cold War thinking to more than a decade of counterinsurgency operations. Maybe it is time to redefine how we fight the next generation of adversaries – both on the ground, in the air, and in cyberspace.

Cyber and Electronic Warfare effects must become just another option that a commander can employ to meet their objectives. Our adversaries think like this. Our adversaries are embracing change. Our adversaries are evolving. What happens if we are left behind?

Lt. Col. Natalie Vanatta
Academy Professor
U.S. Army Cyber Institute

DARK HAMMER

Our science fiction prototype will take us to the year 2027. Things have gone from bad to worse on the Han Chiu Peninsula. Karta is under attack. While the east of the city falls quickly, the U.S. and West Han Chiu forces hold their ground on the west banks of the Tan River. The combined ground forces must hold back the onslaught.

Reinforcements will not make it in time. The fight is about to begin . . . With no option but to battle it out on the ground, casualties are sure to be high.

There is another hope.

The Dark Hammer . . . a cyber offensive capability that might turn the tables and win the day.

KEITH AND CRYSTAL REED GREW UP IN THE CORN FIELDS OF IOWA HELPING OUT ON THEIR PARENT'S FARM. MOM AND DAD BOUGHT THE LAND WHEN THEY RETIRED FROM THE ARMY.



WHEN THE CHORES WERE DONE, THE LOCAL FARM KIDS PLAYED FOOTBALL...

PUSH PUSH PUSH!

SIX YEARS THE ELDER... KEITH LIKED GIVING HIS LITTLE SISTER ADVICE...

THE PRIMARY OBJECTIVE OF THE DEFENSIVE LINE IS TO BREAK THE OFFENSIVE LINE AND PUSH INTO THE BACKFIELD...

TELL ME SOMETHING I DON'T KNOW...

GRADUATING FROM INFANTRY SCHOOL, CRYSTAL FOLLOWED KEITH INTO THE ARMY...

EAST HAN CHIU SABER RATTLING HAD BROUGHT THE REGION TO THE BRINK OF AGGRESSION...

EAST HAN CHIU

KARTA

THE FIRST STRIKE TOOK OUT THE USS RONALD REAGAN OFF THE COAST... THE ENTIRETY OF THE EAST HAN CHIU NUCLEAR ARSENAL WAS TARGETED AT THE U.S.... GLOBAL CONFLICT SEEMED INEVITABLE...

EAST HAN CHIU ROCKETS AND ARTILLERY STRUCK KARTA...THE EAST PART OF THE CITY FELL QUICKLY...TROOPS PULLED BACK ACROSS THE TAN RIVER...CIVILIANS WERE TRAPPED...



ACROSS THE CITY NATO TROOPS FORTIFIED THE BRIDGES...THEIR MISSION...DEFEND AND DELAY... BOTH CRYSTAL AND KEITH WERE ASSIGNED TO THE 2ND INFANTRY DIVISION...

A PLATOON LEADER... CRYSTAL WAS STATIONED AT THE WESTERN ENTRANCE OF THE TANSAN BRIDGE...



SIR... I MAKE OUT 500 TROOPS AT 1000 METERS...

THEIR TANKS AND ARMORED VEHICLES ARE STOPPED AT THE EAST ENTRANCE. OUR SENTRIES ARE TRACKING THEM...THERE ARE MORE ON THE WAY.



KEITH...THE BATTALION'S CYBER PLANNER...COULD SEE HIS SISTER'S PLATOON FROM THE MAKESHIFT COMMAND CENTER.

THEIR TROOPS ARE IN PLACE ACROSS THE TANSAN...

SIR, MORE TROOPS ARE ON THE WAY WEST INTO THE CITY...TANKS AND ARMORED VEHICLES KEEP COMING...

THEY'RE AT ALL THE BRIDGES... WE ONLY HAVE A FEW MINUTES BEFORE THE ENEMY ENGAGES...





WITH THE RONALD REAGAN OUT OF COMMISSION WE'LL HAVE NO AIR SUPPORT... WE NEED TO HOLD THE BRIDGE AND TAKE OUT THEIR C2 NODE... GIVE ME OPTIONS...

WE CAN SEND THE INFANTRY ACROSS THE BRIDGE BUT WE'RE OUT MATCHED... CASUALTIES WILL BE HIGH...

WE WON'T HOLD THE BRIDGE OR EVEN GET TO THEIR C2 NODE... CYBER 158R SAYS THIS IS THE KEY TO EVERYTHING.



WHAT OTHER OPTIONS DO WE HAVE?



WE'RE TOO CLOSE FOR ARTILLERY... THE CIVILIAN CASUALTIES WOULD BE UNACCEPTABLE. CAN'T DESTROY THE C2 NODE, IT'LL TRIGGER A MISSILE LAUNCH ON U.S. TARGETS...

EVEN IF WE DID STRIKE... THEIR COUNTER FIRE WOULD TAKE OUT OUR BATTERIES AND WE'D BE NON-MISSION CAPABLE FOR THE REST OF THE BATTLE...



NOT ACCEPTABLE! COME ON FOLKS, GIVE ME MORE CHOICES...



IT'S STARTED... ENEMY MOVING ACROSS ALL BRIDGES...



YOU'RE TELLING ME MY ONLY OPTION IS A BAD OPTION? TO SEND IN THE INFANTRY... AND IT'S GOING TO BE A BAD DAY... ALRIGHT THEN... PREPARE TO ENGAGE...



IT'S TIME. PREPARE TO ENGAGE THE ENEMY...

ALRIGHT, PLATOON-- PREPARE TO ENGAGE!



WE ARE PUSHING EAST... THEIR TROOPS ARE FALLING BACK!



WE HAVE CONTROL OF TANSAN BRIDGE AND THE C2 NODE.



GOOD JOB, SIS!



THANK GOD.



THE PRIMARY OBJECTIVE OF THE DEFENSIVE LINE IS TO BREAK THE OFFENSIVE LINE AND PUSH INTO THE BACKFIELD!

TELL ME SOMETHING I DON'T KNOW!

THE END

“Bytes travel farther and faster than bullets.
In the near future, they will be just as deadly.”

Dr. George Cybenko
Dartmouth College

AFTERWORD

In battle, a ground commander might employ multiple effects, both lethal and non-lethal. While the authorization to use weapons like a mortar lies with a lower level commander, like a squad or platoon leader, others, like a Hellfire missile, might lie with decision-makers up the chain of command. Cyber is designed in a similar manner. It is a scalable, non-lethal effect that, if used properly, can set battlefield conditions for the commander to pursue their objectives.

What supported Lt. Reed's push through the enemy lines? First, we had cyber capabilities developed to support the ground scheme of maneuver. Second, we had a secure, actively defended network to ensure that the enemy could not have a similar effect on our troops in contact. Third, our forces successfully operated simultaneously in multiple contested domains—in the air, on the ground, and in cyber.

How do we ensure that these three factors will be commonplace on the battlefield? Not only do we need to think about what capabilities our forces will need, but also the authorities they should have.

We need to educate the force about how technical capabilities can support the fight. How do we tackle cyber literacy in our formations?

We need to think about how everyday actions we take in garrison can affect our defensive posture. How should we rethink our plays and game plan to change the culture and mindset of our forces?

