



SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

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Project VULCAN

SCIENCE AND TECHNOLOGY

“Somewhere something incredible
is waiting to be known.”

-Carl Sagan

SCIENCE AND TECHNOLOGY

SOF AT&L S&T VISION

Build The Networks

Provide The Venues

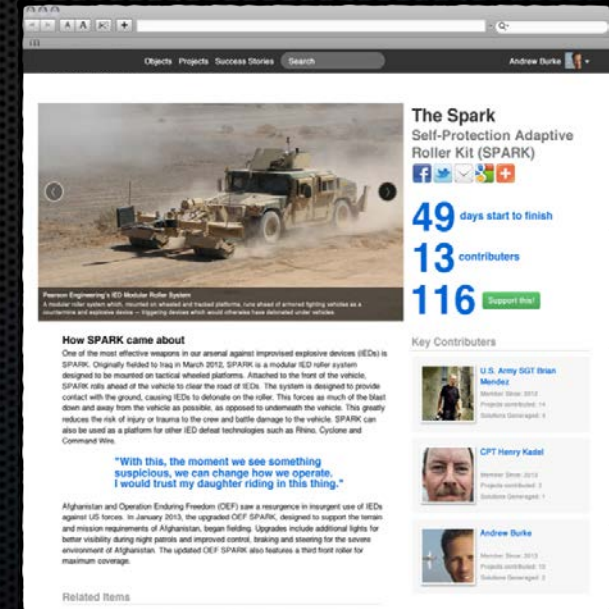
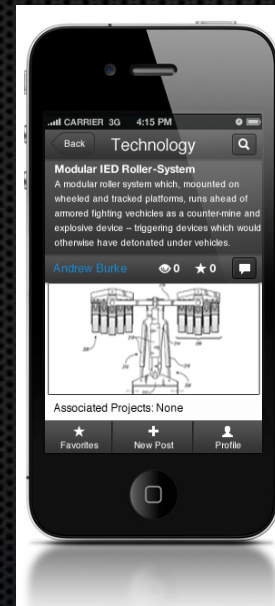
Develop The Tools

Project VULCAN is a tool that will not only enable technology discovery and sharing but will also assist S&T to build its networks.

Background

Defense Technical Information Center (DTIC) Information Analysis Center (IAC) Director Approached SOF AT&L and Introduced the Idea of a Technology Discovery and Knowledge Management Platform that Supports the Development of an Extended SOF-focused, R&D Community of Practice.

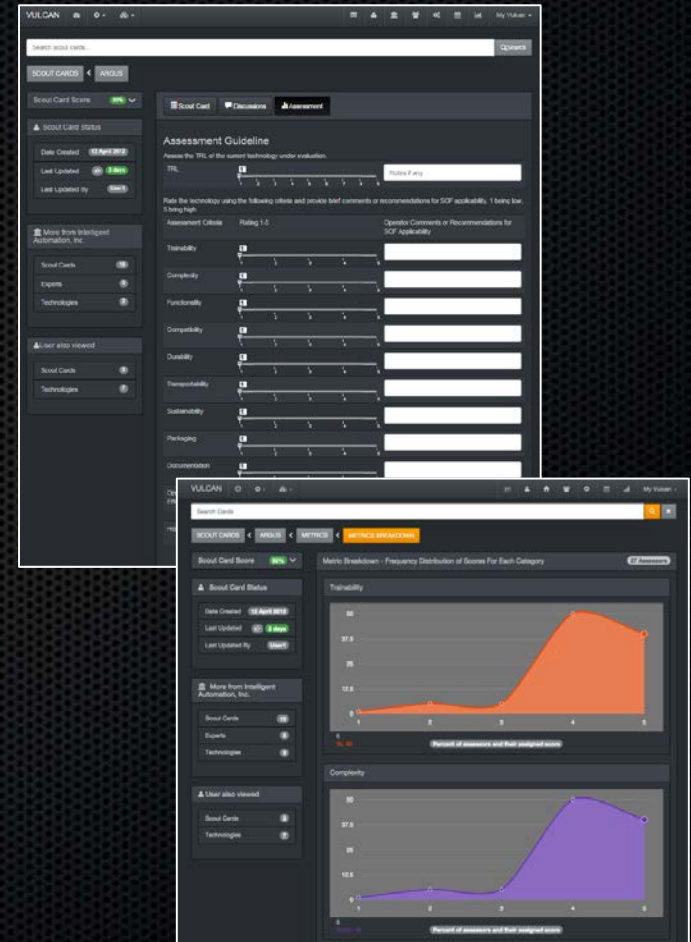
- ① Platform Design
- ② Business Process: Link Information To Decision Points
- ③ Stakeholder Incentives
- ④ University-based Technology “Finder” Network
- ⑤ Technology Domain Awareness (TDA)-related Metrics and Measures of Effectiveness
- ⑥ Technology Discovery and Knowledge Management Tool



Technology Discovery and Knowledge Management Tool

Background

- **Our Focus In Government Today is on Finding Innovative Ways to Leverage New Technologies**
 - How Good Are We at Finding Those Technologies?
 - Assessing Them?
 - Acting on Them?
- The Answer is Not Very. Why? Because technology is changing too fast, there's too much information out there and we are simply too busy to deal with it all.
- We've All Been There – Information Overload. So in parallel with talking about finding innovative ways to leverage new technologies, let's also talk about innovative ways to find, assess and disseminate information related to those technologies.



“The Future Of USSOCOM Relies On All To Spread Knowledge, Seek Out The Knowledge, And Connect Personal Knowledge To That Of Peers. A Comprehensive, Interrelated Knowledgebase Is An Invaluable Asset.” GEN Joe Votel In An Email To “SOCOM All”, 12 Nov 15

SOF S&T Community Fractured

- Acting as separate entities with lots of activity centered upon themselves
- Each are often collecting the same information and stepping over each other as we do it
- Duplicative work with no sharing of information



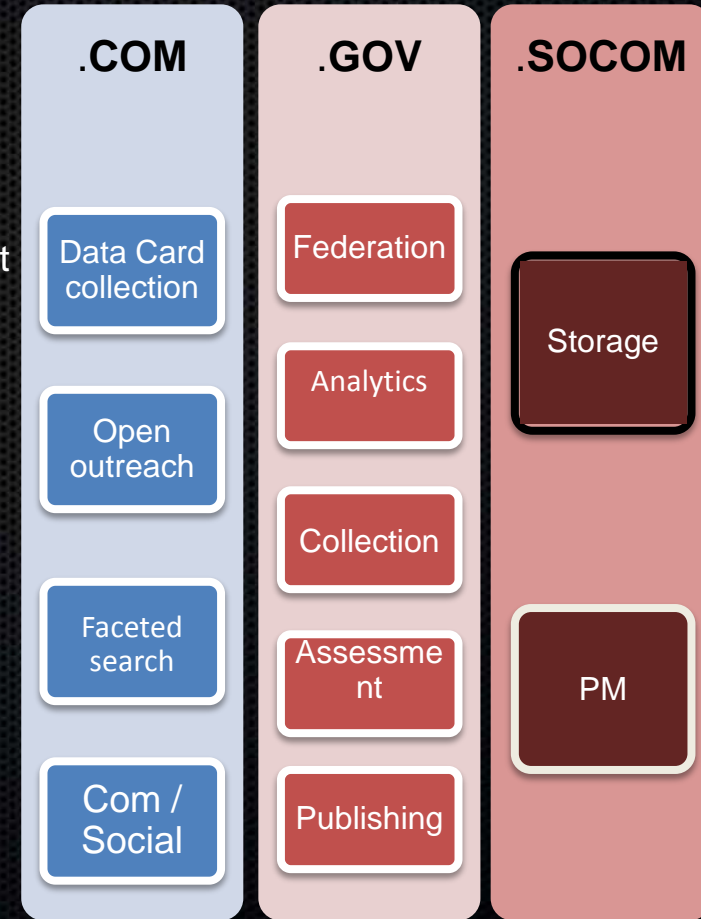
VULCAN SOF Vision

A Scout-centric Tool For Collecting Descriptive Technology Information From Diverse Technology Community

- Catalogue, Store, Search, Assess, Disseminate and Act on Acquired Technology Information
- User-friendly Sharing of Curated Tech Cards Among Users / Within Groups in the System
- Faceted Search Capability by Technology, Organization, Subject Matter Expert (SME)
- Create Collaborative Discovery Workspace for SOF Enterprise
- Mobile-responsive to Help Tech Scouts Interact and Organize Inputs From Various Devices

A Scalable Platform for Future Integration of Dynamic Content, Collaboration, and Search (Laying the Foundation).

- Store Structured and Unstructured Data and Analyze Using Analytics Tools
- Encode Expert Knowledge to Identify Text Elements of Interest
- Create User Groups Based on Access, Prioritization, and Custom Categorization
- Connect to Communication Platforms and Other Sources



VULCAN SOF Community Approach

- Allows the SOF Enterprise to Collaborate and Share
- Provides Unique and Tailorable Knowledge Management



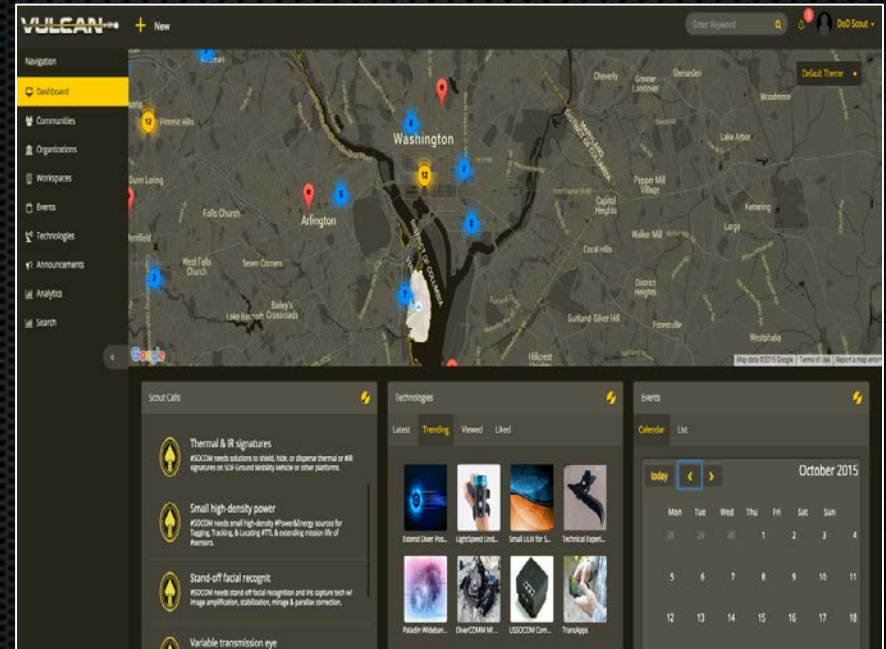
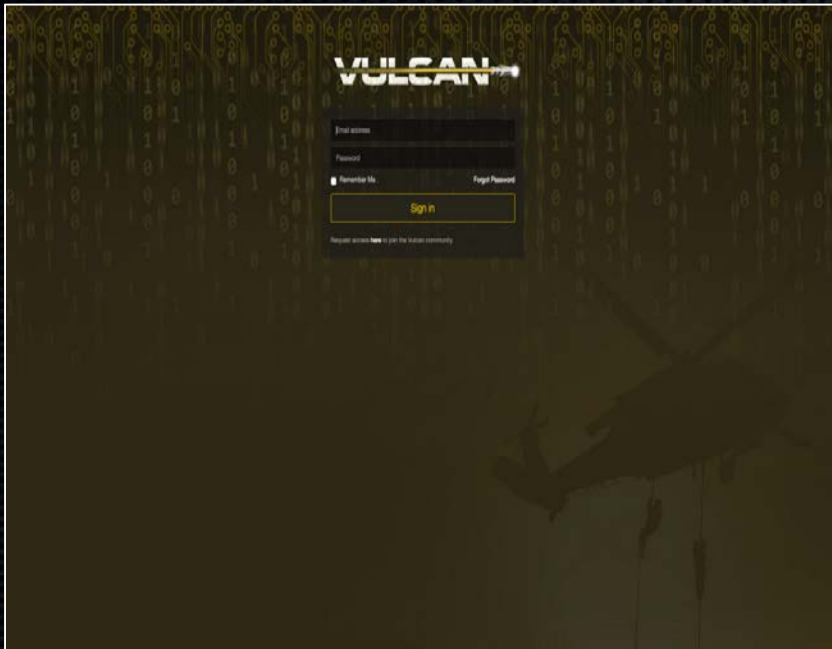
The Solution

- VULCAN is a web-based platform that enables anyone (to include vendors and government technology developers) to quickly describe a technology and upload supporting documentation.
 - Information is entered into a “Scout Card”
 - Scout Cards can be easily disseminated across the enterprise to relevant subject matter experts
 - The resulting data resides in a fully searchable and communicable database
- Users can remotely “poke” the individual who originally entered the data to update information or clarify comments without revealing their personal contact information
- Technologies can be evaluated, assessed and scored within VULCAN

VULCAN will provide an exponential increase in efficiency and effectiveness over existing business processes for gathering, disseminating, assessing and acting on technology related information.

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Log-in & Dashboard



Project VULCAN is still in the prototype development stage and SOFIC 2016 is the first chance for industry interaction and feedback.

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Scout Cards

The screenshot shows the VULCAN Scout Cards dashboard. The interface includes a navigation sidebar on the left with options like Dashboard, Communities, Workshops, Events, and Scout Cards. The main content area displays a grid of technology cards, each featuring a title, a small image, and a 'VULCAN' logo. The cards are organized into sections such as 'Technology for High-Risk', 'Qualification, Detection', 'Sensors for Multi-Platform', 'Vital Signs Universal Pa', 'Physics Based HMI Sensor', 'Millimeter wave Radar Dr', 'Imaging Through Opacity', 'Disruptive Technologies I', and 'Next Generation Biotech'. A right-hand sidebar lists 'Technology Applications' (ISR, Digital, Intelligence, Energy, C4I) and 'Assessment Performed' (Tel, No Tel).

The screenshot shows the VULCAN Scout Card detail view for a 'SIC Solid-State Circuit Breaker/Contactor'. The card includes a title, a description, and a list of differentiators. The description states: 'Features built-in thermal to fuse that 8-yr to enable increased system reliability and lifetime. Provides thermal fuse to enable continuous operation with air cooling. Integrated SIC transient voltage suppression devices to increase component current, using end reliability. Integrated components fit compact form factors to replace existing mechanical components and dramatically improve shock and vibration tolerance.' The differentiators list 'Tel'. The card also features a 'POC' section with contact information for Mr. Gorman F. Unsworth (505-655-6555, gorman.g.unsworth@dalnet.net) and a 'Specifications' section with fields for Weight, Dimensions, and Power. The 'Product Rights' section includes Patent, P, and USA/Ind Sponsor. The 'My Tags' section has an 'Add Tag' button. The right-hand sidebar shows 'Scout Card Strength' (50%), 'Timeline' (Apr 10, 2014, Today, Mar 10, 2014), and 'Card owned'.

Select government groups will be interfacing with industry to collect Scout Cards throughout the week.

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Scout Calls

The screenshot shows the 'Scout Calls' section of the VULCAN interface. It features a list of technology requests, each with a flame icon, a title, a description, and a 'Date Added' field. The requests are:

- Thermal & IR signatures**: #500CM needs solutions to shield, hide, or disperse thermal or IR signatures on SOF Ground Mobility Vehicle or other platforms. (Date Added: 12-15-2015)
- Small high-density power sources**: #500CM needs small high-density power sources for Tagging, Tracking, & Locating (TTL) & extending mission life of #500s. (Date Added: 12-15-2015)
- Stand-off facial recognition**: #500CM needs stand-off facial recognition and its capture tech w/ image amplification, stabilization, mirage & parallel correction. (Date Added: 12-15-2015)
- Variable transmission eyewear**: #500CM needs variable transmission w/ integrated beam protection eyewear solutions and transparent filter to prevent retina damage. (Date Added: 12-15-2015)
- Wide bandwidth antennas**: #500CM needs wide bandwidth, conformal, compound antennas capable of handling multi bands with directional beam control. (Date Added: 12-15-2015)
- Adaptive networks**: #500CM needs solutions for automatic, adapting, networks supporting relay of high data rates over long distances. (Date Added: 12-15-2015)

The screenshot shows the 'Scout Cards' section of the VULCAN interface. It displays a table of technology requests with columns for Technology, Organization, and Status. The data is as follows:

Technology	Organization	Status
ST 3	Vulcan-sof	In Complete
TEST TECH 1	Vulcan-sof	Incomplete

Showing 1 to 2 of 2 entries

Government groups and individuals will collaboratively share requests for information or data through the use of Scout calls – similar to Twitter.

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Assessments

EVENT LEADER DASHBOARD

Navigation: Dashboard, Communities, Organizations, Workspaces, Events, Technologies, Announcements, Analytics

Event: 1 Review, 2 Selection, 3 Assessment

Technologies Reviewed: 10, Technologies Selected: 10, Technologies Assessed: 10

Technology Assessment: Technology Selection (CLOSE PHASE)

Team: Team Name (GO TO TEAM)

Event	Technology	Organization	Active Phase	Status	Select
---	UAV Platform X	Cylix	40%	In-Depth Assessment	

Criteria	Description	Progress	Average Score	Results
Transability	Advanced Night Vision	65%	5	DETAILS
Complyity	Advanced Night Vision	65%	5	DETAILS
Functionality	Advanced Night Vision	65%	5	DETAILS
Compatibility	Advanced Night Vision	65%	5	DETAILS

TECHNOLOGY ASSESSMENT REPORT

Navigation: Dashboard, Communities, Organizations, Workspaces, Events, Technologies, Announcements, Analytics

Name of Technology Goes Here

Assessment Statistics

Scoring Metrics

Item	Metric	Description
1	Metric	Description
2	Metric	Description
3	Metric	Description
4	Metric	Description
5	Metric	Description

Assessment Summary

My Assessments | All Assessments

Criteria | My Score | My Comment

Any government employee, with an approved account, can search through the Scout Cards and provide assessments. Government technical experts can be allowed access and provide USSOCOM with expert assessments as needed.

The Way Forward

- Incorporate Lessons Learned From SOFIC 2016
 - Industry Feedback is Valued and Appreciated
 - Improve the Scout Card Creation Process
 - Improve Scout Call Usage
- Move to CAC Enabled Login and Authentication
- Develop Virtual Non-Disclosure Agreement (NDA) Login Page
 - Every Time a User Logs into the System They Sign an NDA
- Continue Development of Assessment Tools
- Begin Development of Analytical Tools
- Explore the Use of VULCAN in Technical Experimentation and Technology & Industry Liaison Office (TILO)

Conclusion

SOCOM is developing, testing and validating the VULCAN capability for use within the SOCOM Enterprise

• Problem:

- Information overload - SOF enterprise members are exposed to new technologies and products at an overwhelming rate
- Most of the information related to these technologies never gets to the subject matter experts (SMEs) who can actually do something with it
- If it does get to them, they often don't have time to adequately assess it
- No "safe" arms-length collaboration environment for industry and users

• Solution:

- Make every enterprise Member a "Technology Scout"
- Provide each "Scout" with the ability to outsource the capture of relevant information to the solution provider
- Provide enterprise members with the ability to easily disseminate information to the right SMEs in an easily digestible format i.e. the "Scout Card"

• Benefit: VULCAN will provide a means for everyone within the SOF enterprise and beyond to:

- Gather technology information at a far greater rate than is possible today
- Quickly assess the potential for that technology to address existing and emerging capability gaps
- Further disseminate that information as needed
- Act on that information when appropriate

1

Simplify the collection process

2

Accelerate the dissemination process

3

Flatten the Scouting process

4

Consolidate the learning process

5

Provide a **Safe Collaboration** environment

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QUESTIONS