



## Talking with Brigadier General Marc E. Rogers, USAF Director, Standing Joint Force Headquarters U.S. Joint Forces Command

*The Standing Joint Force Headquarters (SJFHQ) is a team of operational planners and information command and control specialists. This team of planning, operations, information management, and information superiority experts form the backbone of the JTF command structure. During day-to-day operations, the SJFHQ element is assigned to a theater commander and is embedded in the commander's staff. The team uses collaborative tools to build an extensive knowledge base of focus areas that can be used in the planning process. It also coordinates with academic, industry and government centers of excellence to pull specialized knowledge into the planning process. When a crisis develops in a theater, the SJFHQ can be assigned to a JTF headquarters where it brings the knowledge base, collaborative tools and contacts from the centers of excellence to the JTF. This enables more proactive and coherent advanced planning and quicker use of capabilities than can be accomplished by ad hoc stand-up of a JTF headquarters.*

**CHIPS:** *Is the SJFHQ a new concept? How was SJFHQ developed?*

Brig. Gen. Rogers: Actually, no. We in the American Armed Forces have tried for decades to have a better capability to rapidly stand up a Joint Task Force to deal with a crisis. The problem was we never really codified how we were going to do it with the organizations and there were various attempts in all the Services where they had their own capabilities for command and control to set up a Standing Joint Task Force or Standing Joint Task Force Headquarters. Most of the time these were made up of "part-time people." As a result they really were not as ready or quick as we would have liked.

Senior government leaders concluded long ago that we needed to be faster and there were suggestions in the mid-1990s that we establish Standing Joint Task Forces. There were discussions in Congressional staffs and inside the Pentagon and the end result was that we could not afford to do it. To stand-up Standing Joint Task Forces would have taken thousands of people and we could not resource that, not budget-wise or people-wise. The second phase was that if we can't afford Standing Joint Task Forces — full combat-ready Task Forces, then maybe we could resource Standing Joint Task Force Headquarters. But that is a problem too because a normal Task Force headquarters would involve hundreds and in some cases over a 1,000 people due to the complexities of what they have to manage, coordinate, plan and execute for a crisis. So to resource and fully support an established Standing Joint Task Force Headquarters was not doable either.

So we decided if we couldn't do that, at least we could have a core element of true professionals who have the pockets of requisite skills, trained and proficient in these skills to stand-up a Joint Task Force Headquarters much more rapidly. When a crisis comes up, the question is where are the people who have been paying attention to this crisis and already have a game plan? Normally, the way we form a Joint Task Force Headquarters, since it doesn't exist on a day-to-day basis in peacetime, is we go to all of the Services and ask for people who form up as a headquarters. They have to learn first what the situation is, what is the background, they have to organize themselves, and you can see the problems with that. They have to play a pickup ball game.

But if you have a core element of people, who already understand the situation and are skilled at organizing a headquarters to meet a mission then this core element can raise the situational awareness and help organize all of those augmenting in a headquarter-

ters very rapidly. And that is what was demonstrated in Millennium Challenge 2002, when the Joint Task Force Headquarters was composed of many augmentees, but the core element, the SJFHQ people who went into that headquarters, were able to rapidly provide information, situational awareness and understanding, and a game plan for the mission approved by the regional commander and the JTF commander. It accelerated the clock tremendously, in terms of what that headquarters was able to do in organizing for that mission. And that is the value that SJFHQ brings. So this is an idea we have been working on a long time, but finally we came to the conclusion that we can gain most of the benefit by using a core of true professionals. It is really not a true headquarters; rather it is a core element of a headquarters.

**CHIPS:** *What sort of IT tools does the SJFHQ team bring to the commander's staff? Wouldn't the commander already have these skills and tools already on his staff?*

Brig. Gen. Rogers: Many of these tools and these types of individuals do exist, but the difference is they also have other responsibilities or they would not be in that headquarters. For example, they may have policy or resource allocation or training duties, etc., in addition to the mission at hand. They also don't have the time to practice every day using the equipment or the processes that a joint warfighting headquarters must use. They are not brought together to function as a core team. As a result they would be playing a pickup game. They would perform better than a staff brought from the field to plug into a headquarters, but they would not have the capability that a SJFHQ core element would bring. The software and hardware tools we use are not unique; many do exist on the commander's staff. The difference is how we use and organize them.

One of the most important things that SJFHQ is going to bring to the headquarters and joint operations is skill at employing a "Collaborative Information Environment" (CIE)... Skill at exploiting what a collaborative information environment can do. We do not have people today who are adept at this. What we have realized is that with a collaborative environment you can very rapidly build plans and make decisions compared to having to do things the old way with telephones and asynchronous e-mail, etc. The tremendous value of the CIE is realized when you actually view it as a new dimension of your operational environment and you realize you should organize yourself within the CIE.

Just as you do in normal operations — you must have rules for

operating, everything down to brevity codes for how you talk, i.e., certain words mean certain things, just as pilots talk to each other or ships talk to each other or as people talk in a tactical situation in ground combat on a radio. You need these procedures in a CIE as well.

Additionally, in a CIE you need to pay attention to organizational principles and protocol, for example, who speaks with what authority, when would they speak or transmit, etc. This CIE, when properly exploited, gives us the capability to take advantage of the knowledge enrichment phenomenon. The idea that the more you propagate a piece of information, the more knowledge participants will be able to add to it — and all this knowledge will be known by the community of participants. Imagine its use in a military command and control situation with all of its complexities and you can see how much more efficient the operation can become. You can conduct several planning discussions simultaneously and much more rapidly produce something that allows a commander to make a decision. But *only* if you are properly organized and operate with a set of business rules to ensure efficiency.

*CHIPS: Does the SJFHQ team assist the commander's staff in making sense out of the overwhelming amount of data that comes in?*

Brig. Gen. Rogers: There is a group of people in the SJFHQ called knowledge management. Knowledge management is a new arena for us and one reason is that we have realized the impact of the Information Age. If you look at the history of information exchanged in conflicts, you find the ability to pass information has grown exponentially. Warfare is a very, very complex operation. There is nothing in the commercial world that matches it — no company, no process on a daily basis has to deal with the complexities that commanders, forces and government have to deal with in wartime.

Here are some of the examples of the amount of information that was passed in previous wars. In World War I the standard communication rate was about 30 words per minute on a field phone. In World War II it was about 60 words per minute on a radio, but you had to talk clearly. In Vietnam it was probably 100 words per minute using satellite communications, etc. In the Gulf War it was roughly 192,000 words per minute using networked computers. I don't have any idea what it was in our recent conflict, but I bet it was far above 192,000. In 2010, if we should conduct a theater conflict, we are looking at 1.5 trillion words per minute transmitted to, from and across the theater. That is the equivalent of the content of the Library of Congress being transmitted every minute. Somewhere in those 1.5 trillion words is the precise information that a commander, planner, tactical squad leader, flight lead or ship's crew needs. *Where is their information?* Knowledge management is the field that will be able to fuse, collate and funnel that information to the right people at the right time.

It is a very complex challenge and we don't know quite the best way to do it. But in the SJFHQ we have some capability at a beginning level. Right now there is no schoolhouse, no training ground for knowledge managers. Some think they are network managers or administrators, but it is much more than that. When you filter and prioritize information and make sure that the right people have free access to that information that is relevant to them — it is a very challenging task.



*Above: SJFHQ Prototype personnel using collaboration information tools to conduct meetings with participants worldwide.*

*CHIPS: What types of emerging technologies are you working?*

Brig. Gen. Rogers: In the sense that knowledge management is a technology we are working to bring that to the Combatant Commander to whatever degree we can — but also multilevel security. The SJFHQ prototype is not going to develop it, but we will use it. We are participating in certain experiments and Information Assurance studies to help bring that capability. Our Joint Experimentation Directorate in Joint Forces Command is working on multilevel security and industry is also working hard. That will be one of the prime technologies — if we can achieve reusable, multilevel security that will bring tremendous capability to commanders and this nation because of what we will be able to do with our coalition and multinational partners. What you need to do is work with your partners while protecting the appropriate information at the appropriate level. The other nations of any coalition have the same problem protecting critical information just as we do. We would like to operate in the same collaborative environment and not have to worry about sensitive information being compromised. Multilevel security is one of the prime challenges to true multinational interoperability in the information domain.

*CHIPS: I have heard you say that your goal is to build capabilities using COTS technology because it is less expensive for DoD and our allies. How closely are you working with our allies on operability issues? How difficult is it using COTS in a coalition environment when a country's national interests might lead them to choose a domestic product rather than a U.S. developed technology?*

Brig. Gen. Rogers: One good thing about the computer industry and the Internet is that even though you may have computers manufactured in another country, all manufacturers, in trying to meet their customer demand, want their products to be able to connect to the global Internet. As long as users can connect, the issue will be reduced to culture, language, policy and law barriers.

In multinational terms we are working with the United Kingdom at understanding how they employ their equivalent of the SJFHQ because they have had great success and eight years of experience with it. We want to learn what they know about training for a SJFHQ — training cycles and proficiencies, etc. Then how they manage personnel, assign and track them. Obviously these people come out of these assignments with superb joint warfighting skills and the British track them in the personnel system for possible recall during crises. What we would like is to operate with their Joint Forces Headquarters within the same CIE. I'm not too concerned if our partners buy domestic products be-

cause as long as we exploit global computing and Internet industry standards and capabilities we will enhance interoperability, aside from the usual policy, law and language hindrances.

*CHIPS: How does the SJFHQ compare to its British equivalent?*

Brig. Gen. Rogers: I have seen examples of the performance of the British standing headquarters. It was outstanding and enabled the British to perform very well. In recent months we have been unable to work with them because they have their standing headquarters element deployed to the Gulf and it formed the core of their national command element. Right now they are probably returning to the UK and need some time off, but as soon as they are able we would like to resume working closely with them. We have had exchange visits with their headquarters, we have been in the UK and a few of them have been here. Now that the hostilities of Operation Iraqi Freedom are essentially over perhaps we can work with them more often over the next several months.

*CHIPS: Can you talk about the reach-back links to U.S. strategic planning and intelligence organizations, and other non-DoD agencies?*

Brig. Gen. Rogers: One of the things we are going to ensure we provide is the ability to reach-back to certain agencies and organizations that provide special services, for example, the Joint Warfighting Analysis Center, certain intelligence agencies, etc. By using a Web-based capability with the proper security the SJFHQ can reach to other organizations to acquire information and to conduct collaborative planning. There are other entities you will want to reach as a SJFHQ in instances where you might not execute a particular planning function but another agency does and once you contact them with your needs they will forward the results to you.

One of the things we need to keep in mind is the level that the SJFHQ should operate. You are familiar with the terms tactical level, strategic level, operational level, national level planning or operations ... there is strategy and tactics at all levels. The SJFHQ should normally function at the regional command level at the strategic and high operational end of planning and execution. It should reach down to the different components — air, land, maritime and Special Operations and rely on them for the planning and execution of those skills and core capabilities that they bring to the fight. It is too difficult to do all of the planning at one level, but if you collaborate with other organizations you will be more effective in a shorter time period.

*CHIPS: How many people would actually deploy in a SJFHQ mission?*

Brig. Gen. Rogers: It depends on the situation. Our model for the SJFHQ core element right now has 58 individuals. Those 58 individuals are all handpicked for certain skills and capabilities to make sure we cover the range of things that a headquarters needs to be able to do. If it is a small simple operation maybe only a few of them need to deploy, maybe it is humanitarian aid or disaster relief ... something not as complex — just urgent. But if you have a large-scale military combat operation it is much more complex. Perhaps you need to send the major portion of the SJFHQ element to the Joint Task Force. In Millennium Challenge 2002 almost everyone was sent to work in the Joint Task Force Headquarters ... certain "plugs" of capabilities. Plugs or teams went into operations, plans, information superiority, knowledge management ... it is situation dependent. It depends on the scale or scope

and the expected duration of the operation.

*CHIPS: So the SJFHQ would assist the commander in instances of humanitarian aid, disaster relief or assistance to civil authorities, as in the massive humanitarian effort for the people of East Timor?*

Brig. Gen. Rogers: That's a possible scenario. We view the SJFHQ core element as a command and control weapons system. So for a given situation the Combatant Commander will determine how he wants to employ this weapon system just as he determines how he is going to employ a carrier battle group or squadron of airplanes, air and space task force, etc. You can compare it in the same way ... *how do I want to deploy this force and how much of it do I need?* For something like East Timor or another humanitarian operation, he may want to deploy a few of these people to the JTF Headquarters to assist the commander. Or perhaps they will not even need to leave headquarters to be a part of that operation. I think in many cases the commander is going to want them to deploy to wherever his headquarters is in the theater, but it is possible to use reach-back for many of these capabilities and again it would be determined by the complexity, scale, scope and expected duration of the operation. But we must plan for the worst case where most or the entire SJFHQ core element would deploy. These people will have mobility requirements and be able to deploy forward at a moment's notice to help establish a Joint Task Force Headquarters.

*CHIPS: How soon will you be able to deploy a fielded SJFHQ?*

Brig. Gen. Rogers: We are working with three different Unified Commands right now to establish their SJFHQ within a year. Precisely when they will be fully established and able to deploy I couldn't tell you. It is very difficult to just turn a switch and insert a 58-person core element into a headquarters with complete functional capabilities. It will be a building block approach. For example, some commands are going to do this incrementally and be ready by the end of 2004; others are going to do it more rapidly and probably have it available by the beginning of 2004.

*CHIPS: How is the core element of SJFHQ being fielded?*

Brig. Gen. Rogers: What we have done at Joint Forces Command is establish what we call the Standing Joint Force Headquarters prototype. We view this as a weapons system so what we have here at JFCOM is a prototype consisting of the equipment, the software, hardware and the 58 people. The prototype serves as a model to perfect the standard operating procedures, tactics and techniques the SJFHQ will need in the field. Here at JFCOM we are building an addition to one of the buildings to house our prototype and its laboratory. We will use the prototype to assist all the regional commanders in establishing their SJFHQ. But we will also use it to conduct further experiments and develop new capabilities and improvements to the SJFHQ — just as we have made improvements to other weapons systems that we have fielded in the past. For example, effects-based operations and the building and exploiting of an operational net assessment will improve over time, especially as information technology continues to advance. Before we bring a new capability into a headquarters we would like to first try it out and integrate it into the functions of the prototype before we produce modifications to the fielded capabilities in the years ahead.

We are truly trying to manage the SJFHQ as a weapons system. This is an exciting challenge and a needed addition to our com-

mand and control capabilities for our forces, especially given where we are in the Information Age. It is here and it is here to stay and we must learn how to operate in it better than anyone else and exploit the capabilities and possibilities it offers. The SJFHQ, I think, is probably the first command and control weapons system to view it that way and to accept upfront that its core capabilities will rely to a great extent on information technologies and new constructs such as the CIE.



*Brigadier General Rogers enlisted in the Air Force in 1974 and earned his commission in 1978 through the Reserve Officer Training Corps. He has held numerous staff and command positions, including combat tours in Iraq and Bosnia and as commander of the 49th Fighter Wing at Holloman Air Force Base from 2000-2002. A command pilot with more than 2,300 hours in numerous types of aircraft, Rogers holds a bachelor's degree in physics from the University of Missouri. He holds master's degrees from Embry-Riddle Aeronautical University and the National War College. He also attended the Joint Forces Staff College. His awards include the Legion of Merit, the Defense Meritorious Service Medal, the Meritorious Service Medal, the Air Medal, the Aerial Achievement Medal and the Air Force Commendation Medal.* □

## Choose the Best O/S

By Patrick Koehler



In today's world of computing, you can select from a smorgasbord of operating systems such as IBM OS/2, Linux, Macintosh, Microsoft Software (MS), and Unix flavors. What *tastes* best to your PC will depend upon how much it can easily swallow. We will take a look at some of the essentials to determine what is best for you, such as how much memory is required, hard drive (HD) space needed and how long vendor support will continue. *How do we even get started?*

First let's take a look at one of the largest software vendors:

Microsoft's Lifecycle Policy for a business-oriented product defines three phases of support:

- *Mainstream* includes a pay-per-incident and free hot fix support for a minimum of five years.
- *Extended* includes an hourly rate and a fee for hot fix support for two years following the end of the mainstream phase. This support is offered only for Business and Development Software.
- *Online Self-Help* includes a searchable Knowledge Base, FAQs, etc., for a minimum of 8 years.

Windows 2000 exits the mainstream phase March 31, 2005. Extended support will continue to March 31, 2007 and self-help support will continue for at least another year.

Typically you would not use an operating system that is no longer supported by the manufacturer, so we will not consider Windows 95, 98/98SE because these operating systems are no longer supported by Microsoft. Support ended for Windows 95 and NT 3.5x on December 31, 2001; and Windows NT 4.xx extended support will stop on June 30, 2003. For a complete listing of product lifecycles, visit Microsoft's site at: <http://support.microsoft.com>.

The Navy Marine Corps Intranet (NMCI) identifies Windows 2000 as their O/S. There are four different flavors of 2000: Professional, Server, Advanced Server and Datacenter Server.

Windows Millennium (ME) will be supported until December 31, 2004. Windows ME requires a Pentium 150MHz or better, 32MB of RAM and a HD with 320MB of available space. ME is a good choice for multimedia computing.

Windows XP is designed for the novice user, but can be used by the expert. XP's strength lies in multimedia. Windows XP was designed to run on the latest PC equipment. Windows XP Home and Professional both require the same minimum hardware: Pentium 300MHz or faster system with 64MB of RAM, 1.5GB of free HD space, an SVGA or higher resolution video adapter, CD-ROM or DVD, and a key-

board and mouse. Since XP supports graphics, the more RAM, hard drive space and video memory you can afford the better. I think XP should be run on a 400MHz or faster system with 256MB of RAM. There are several significant differences between XP Home and Professional. XP Home cannot be a domain member, but can access domain resources. XP Home does not install a backup program by default, but one can be extracted from the O/S install CD. XP Home does not support group or local policies, while XP Pro provides full support for groups. XP Pro has better security than XP Home supporting Kerberos V5 authentication protocol and IP Security.

Below is a summary of MS operating systems, and minimum and suggested requirements.

Win 2000 Professional - 133MHz or higher Pentium, 64MB of RAM, 2GB HD with 650MB available space, CD-ROM or DVD drive, VGA or higher and keyboard. More RAM and hard drive space improves performance. Supports up to 2 CPUs and 4GB of memory. I suggest 400MHz or higher Pentium, 128MB of RAM, 8GB HD with 2GB available space, CD-R/RW, CD-ROM or DVD, SVGA or higher, mouse and keyboard.

Win 2000 Server - Same as Windows 2000 Pro, 128MB of RAM, 2GB HD with 1GB of available space. Same as 2000 Pro except it supports up to 4 CPUs. I suggest 400MHz or higher Pentium, 256MB of RAM, 10GB HD with 4GB available space.

Win 2000 Adv Server - Same as 2000 Server except it supports up to 8 CPUs and 8GB of memory. Has server failover and load balancing capabilities.

Win 2000 Datacenter Server - 8-way CPU capable using a Pentium III Xeon or higher, 256MB of RAM, 2GB HD with 1GB of available space. Same as 2000 Advanced Server except supports 8 to 32 CPUs and 32GB of memory so I recommend 512MB of RAM and a 120GB HD with 20 percent available space.

The next step to consider is the level of your expertise. MS Windows provides a graphical user interface (GUI) that is easy to use and offers three different server versions and a client with multiple processor support. XP has an easy interface and keeps some things initially hidden from view that might confuse the novice user. For example, XP does not show everything in the Control Panel that is available. This is nice for the novice user because it doesn't present options that may cause confusion.

Security is another important factor to consider. Windows 2000 and XP can be made more secure by using New Technology File System (NTFS). NTFS extends security down to the file level. Windows 98/98SE's security consisted of a log on or password screen savers that could easily be circumvented by simply pressing the Escape key. Windows NT 4, 2000

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