

# 10 Print Capture Scanner & Software Requirements Workshop

Sponsored by the Homeland Security 10 Print Scanner User Group

Hosted at the National Institute of Standards

Friday, 10/14/2005

Workshop Moderator - Charles Wilson, NIST

## Agenda

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- Welcome – Martin Herman, NIST
- Keynote – Jim Williams, DHS US-VISIT
- Operational Needs
  - Department of Homeland Security – Neal Latta/Dave Williams
  - Department of State – Ted Halstead
  - Department of Defense – Dave Lohman, Biometrics Fusion Center
  - Federal Bureau of Investigation – Tom Hopper
  - NIJ Research & Development – Chris Miles
- Requirements, Standards, and Q&A
  - Standards – Mike McCabe, NIST
  - Requirements – Mark Crego, Facilitator
  - Questions and Answers – Charles Wilson
- 10 Print Scanner Challenge – Scott Hastings, DHS
- RFI Process and Timeline, and Q&A – Shelby Buford, DHS
- Closing

## Requirements Questions & Comments

#	Requirements Question or Comment	Response
1	What is the difference between specified requirement 2.1.1, “The scanner and software shall capture the ten fingers using 2 four finger slaps and one 2 thumbs slap,” and requirement 2.1.2, “The scanner and software shall support slap capture of both identification slaps and individual finger flats”?	The two requirements are additive. The scanner and software, therefore, shall support both the 4-4-2 Identification Flats standard as well as individual finger flat capture, or any combination thereof.
2	I would like to request an overview of the architecture envisioned by this RFI as a starting point to help us understand more about your requirements. After we understand this vision, we will be able to ask more specific questions about your requirements.	This will be answered in the workshop to the extent that such an architecture is available at present. Other than what is in the workshop, no other architecture will be provided.
3	In the context of this workshop does the term ‘slap’ mean the same as ‘flat’?	Yes.
4	What is the reference to the DHS requirement?	The DHS requirement to move to 10 print was stated by the Secretary, Homeland Security at the following URL: <a href="http://www.dhs.gov/dhspublic/display?content=4598">http://www.dhs.gov/dhspublic/display?content=4598</a>
5	Are 4+4+2 slaps the only allowed approach?	No, but 4+4+2 slaps should be supported in addition to any other approach.
6	Would any other technology that gave all 10 flat fingerprints and satisfied all the other requirements satisfy?	Potentially. Vendors should provide feedback and justification for alternative approaches.
7	Selected locations: is there a list? What is the list of facilities where current devices would have critical impacts?	The Requirements Workshop will provide a general discussion of the facilities needs. No list will be provided.
8	Where in the following list does the term ‘device’ fit? Lab model, Functional model, Early prototype, Prototype, Pilot, Product	All.
9	Does this mean that a technology that does not use the ‘slap’ approach is required to use no more than 15 seconds for all ten fingers?	Yes. The total capture time shall be less than 15 seconds
10	Some potentially useful new technologies do not use the ‘slap’ approach. Can this requirement be modified to allow such technologies?	Potentially yes, provided that the size, speed, mobility, quality, and output requirements are met.
11	Current slap flats FTIR-based scanners take images of more than one of the joints of the finger (both the fingertip and some or all of the second and third joints). Does this requirement require fingerprint images for more than the first joint?	The requirement is for “Identification Flats”, which include the friction ridges exposed by the 3”x3.2” image area. However, for most purposes, only the segmented images are relevant for identification purposes. Vendor should state how any suggested approach deviates from the Identification Flat standard.

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12	Assuming a technology that does not use the currently available FTIR-based technology with its platen on which the fingers are placed, and that this requirement needs to be reworded, what is the substantive intent of this requirement?	The substantive intent is to capture Identification Flats in a specific form factor, speed, mobility, and quality. Vendor should state how any suggested approach deviates from the requirements.
13	Section 2.1.6. You mention anti spoofing and live finger detection in the same sentence. Does live finger detection meet your minimum definition of anti spoofing detection since it represents a subset of possible spoofs?	User Group recognizes that live finger detection is a subset of anti-spoofing. Vendor should suggest what anti-spoofing capabilities, including live finger and others, can be provided within the required form factor, speed, mobility, and quality.
14	Section 2.1.9 Will a quick release mounting feature to a counter-top meet you definition of "firmly mounted"?	Yes. User Group will consider adding "quick release mounting" to the requirements.
15	Does any proposed Scanner need to support any approved Software?	Yes. The combination of 'any approved scanner' and 'any approved software' need to operate interchangeably.
16	Section 2.2.1. What is the reason for the 6"x6"x6" dimensions? Can one dimension be traded off for another as long as the overall volume remains the same? (216 cubic inches)	The dimensions are intended to be maxima in each dimension. However, for many applications, the height should be well less than 6".
17	Section 2.2.4. Does the MTBF requirement apply only to the scanner and relevant firmware or does it apply to the complete system including the application software?	MTBF refers to the complete system, and to the individual components.
18	Section 2.2.4. How is failure defined?	Failure to operate as documented.
19	Section 2.2.4. Does MTBF apply to maintenance or consumables?	No. Planned, documented maintenance are not measured as part of MTBF.
20	Section 2.2.5. Is there a minimum acceptable specification for "sealed, rugged container with high tolerance for shock and vibration?"	User Group is considering adding requirements to cover the specific definitions of shock, vibration, etc.
21	Section 2.2.5, do you have a specification for what "high tolerance" means?	User Group is considering adding requirements to cover the specific definitions of shock, vibration, etc.
22	Section 2.3.3. You mention a single 6" cable. Did you mean a 6' (foot) cable?	Yes. This is a typographical error in the requirements. The cable shall be 6 feet (approximately 2 meters) in length.
23	Section 2.3 implies only Windows 2000 and Windows XP interfaces to the device are required. Is this accurate?	Yes.
24	Section 2.3, What other specific environments (Besides Windows 2000 and XP) will the devices are deployed within	None at present.
25	Section 2.3 How many of these devices will run off of laptop computers?	Indeterminate.
26	Section 2.3 Are all requirements mandatory for laptop computers?	Yes.

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27	Section 2.3.3 Can the selected vendor choose any computer interface for the system, or does DHS prefer an existing interface?	Vendor should provide an interface that meets the cabling, power, and speed requirements.
28	Section 2.3.3 Is USB 2.0 required? If not, what other technologies are permitted?	Requirements do not state a specific interface, only a single cable with no 120v power outlet. Vendor must state how the requirements will be met.
29	Section 2.4 How are 'dry' and 'wet' defined, and what test should be used to certify that images can be successfully captured?	no standard definitions exist for wet and dry.
30	Section 2.4 What database of skin colors is to be used in design work, and what test should be used to certify that images can be successfully captured?	no standard database exists
31	Section 2.4 What Image Quality Metric or Metrics should be used?	As stated in 2.4.1, EFTS Appendix F Image Quality Specifications (IQS).
32	Section 2.4 What is the purpose of this requirement?	Assure accuracy of matching.
33	2.5.1 Is the client always a Windows variant as implied by Section 2.3 number 5?	Windows client variants are the minimum requirements. Vendor must state how the requirements will be met, and should state what additional environments are supported.
34	Section 2.5.4 You require the software to run in Windows 2000, Windows 2003 Server, Windows Xp in 32 and 64 bit operation modes, as well as major UNIX and Linux variants. Is the "Software" to run on all or can there be separate compiled versions of the Software to run on the various operating systems?	Yes the software is to run on all environments noted. How the vendor implements such software, such as separately compiled versions, is not defined in the requirements. Vendor should state how these requirements will be met.
35	Section 2.5.4, what are the specific UNIX and Linux variants that you would like supported?	Vendor should state what UNIX and Linux environments are supported.
36	Section 2.5.17. You require the Software to support java and C++ applications on the client, and J2EE, C++ and .NET applications on the server. Does this requirement mandate the Software provide an object oriented API?	Vendor should state how the requirement will be met, whether the specific API is object oriented or not.
37	Section 2.5.17 Are you intending there be one version of the Software, or multiple versions to support java, C++, and .NET?	Vendor should state how the software will be supported under the multiple environments.
38	2.6.1. The low level driver for the individual vendors scanners can be made bio API compliant for the small subset of the bio API standard that can be applied to a 10 print device, however does the requirement recognize the unique functions of individual vendors scanners that require significant extensions to the standard to be relevant to the proper operation of the 10 print scanner?	To be discussed in the Workshop

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39	2.6.1. Unique calls and functions on the scanner drivers represent competitive differences between vendors of the scanners and the manner by which the scanners operate. Does the author suggest the creation of a more appropriate but higher level interface standard for the low level drivers to the instrument?	To be discussed in the Workshop

## General Questions and Comments

#	General Question or Comment	Response
G1	<p>The scanner and software shall be interoperable, that is, any approved scanner shall work with any approved software, and vice versa."</p> <p>a) When does the government plan to announce the approved scanners and approved software?</p> <p>b) How much time after announcement of approved scanners and software will there be in order to be compliant?</p>	<p>Please refer to the RFI, section 4.0.</p> <p>"This workshop is intended as 'market research' by the Government, to determine whether industry can develop innovative technology to meet the requirements of all the agencies participating in the workshop within an abbreviated timeframe.</p> <p>"The Government intends to continue working with industry over the near term on this ten print effort, however, interested parties are advised that none of the participating Departments are under any obligation to take any further action with any party as a result of this market research effort."</p>
G2	<p>Faster, smaller, more mobile devices are not currently available. Some applied research and engineering and some additional development will be required to provide them. Does the User Group envision its member agencies providing funding to support the needed R&amp;D effort? If so, through what process?</p>	
G3	<p>Someone will need to pay for expediting technology improvements. Will Government provide the needed financial support?</p>	
G4	<p>Suppose more R&amp;D funding is required to pursue these new technologies than companies can allocate. Are members of the User Group prepared to supply additional funding?</p>	
G5	<p>That the Government is not under any obligation to take any further actions is clear. Some Departments are operating under mandates to deploy technologies that do not currently exist, however. In this context, what is the process that will likely be followed once the User Group concludes that one or more proposed approaches to meeting the specified requirements deserve support?</p>	
G6	<p>Will some government or private organization designate or develop a common interface between Scanners and Software applications?</p>	<p>No plans exist to address the question as stated.</p>
G7	<p>Under what circumstances would currently available 10-print devices be operationally feasible?</p>	<p>Question is not part of the scope of this Requirements Workshop, which focuses on a Scanner and Software that meet the requirements.</p>
G8	<p>NIJ just recently awarded four awards to organizations for the development of fast capture rolled equivalent fingerprint capture devices. What is the overlap between the four new fast capture awards and this RFI?</p>	<p>To be discussed in the Workshop. This effort primarily focuses on short-term flat capture of civil identification prints. The NIJ effort focuses on a longer-term, rolled capture of criminal prints.</p>

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G9	Is some deployment definitively needed by October 2006, which is 12 months from now?	As discussed in the workshop, deployment will be occurring before October 2006. Vendors should state how they will be able to meet <i>general availability</i> of their solution by no later than October, 2006.
G10	The goals of the User Group can be met more quickly or more effectively or both if hardware and software vendors act collaboratively. Is there a mechanism to facilitate this collaboration?	The purpose of the Workshop is to open the door for collaboration between vendors and government. As will be stated in the Workshop, collaboration, facilitated by NIST through standards workshops is an ongoing process.
G11	Suppose it takes longer to achieve the goal than the 12-18 months specified in the RFI. Is the User Group still interested?	Vendors should state how they plan on meeting the requirements within the challenge timeframe.
G12	Will these one on one meeting be scheduled only in the Washington DC area?	Yes.
G13	Is the RFI directed only at individual firms, or can consortia of firms submit summary papers?	Joint papers are acceptable.
G14	Can a company submit more than one 5-pager, for different technologies that may each meet the requirements?	No.
G15	Can you confirm that the above mentioned requirement is a new requirement?	Yes this is a new requirement.
G16	Does US VISIT have a current contractor providing these services?	No. This is a new requirement for Scanner and Software.
G17	Is there a required spacing format for the 5 page summary paper (i.e. single spaced or double spaced)?	Single spaced 12 point type.
G18	Does descriptive literature for existing products, mentioned in 5.b, count against the 5-page summary paper page limit?	No.
G19	Do technical figures which illustrate concepts discussed in the summary paper count against the 5-page limit?	Yes.
G20	Are there provisions for demonstrating devices at the workshop or are such demonstrations left until vendors are called for private audiences?	There are no provisions for demonstration at the workshop.
G21	Does a cover letter count against the page count?	No, however the cover page may not be read by the User Group.
G22	Can descriptive literature include documents (for example, company background literature) that do not necessarily pertain to products that will be augmented to fulfill the RFI?	

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G23	What percentage of the 3,000 to 10,000 device deployment are for four finger-slap devices, and how many are for two print slap verification devices?	<p>The 3,000 to 10,000 figures are illustrative of potential needs across government agencies for four finger slap devices. They should not be considered estimates.</p> <p>Actual deployment, across government, will depend upon usability, suitability to purpose, costs, and the particular needs of government agencies. As stated in the RFI, Section 4, "interested parties are advised that none of the participating Departments are under any obligation to take any further action with any party as a result of this market research effort."</p>



## Potential added requirements

### Size

Size should be no greater than 3.75 inches in height, and must not to exceed 6 inches in height.

### Vibration

The scanner shall be capable of passing MIL Standard 810 Method 514.5 (Vibration) using the Random Vibration environment category for Composite two-wheeled trailer vibration exposure , Annex C, table 514.5C-VII, figure 514.5 C-2. Commercial equivalent compliance testing may be substituted with similar test conditions and limits.

### Moisture

The scanner shall be capable of passing MIL Standard 810 Method 506.4 (Rain) Procedure III. Commercial equivalent compliance testing such as IEC 529, IP54 may be substituted with similar test conditions and limits.

### Shock/Drop

The scanner shall be capable of passing a 3 foot drop test onto a steel plate on all axes in accordance with IEC 68-2-32 or MIL-STD-810F, Method 516.5

### Temperature

The scanner shall be capable of operating between -10 C and 70 C. according to MIL-STD-810F, Method 501.4 and 502.4 or similar commercial compliance testing with similar test conditions and limits.