

ICBS-R Frequently Asked Questions October 31, 2007

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OVERVIEW:

What is ICBS?

The “Interagency Cache Business System” is an inventory management system designed for use by the NFES National Interagency Support Caches. ICBS is an Oracle Forms® application and was first implemented in 1999. It is currently supported by the Forest Service National Information Systems Team (NIST) based at the National Interagency Fire Center (NIFC) in Boise, Idaho.

ICBS supports the key cache business processes (e.g. receiving and issuing supplies; managing an inventory; filling resource orders; documenting shipping arrangements; tracking accounting information; making sales to government customers; producing standard reports; etc.).

Why does the current ICBS application need to be “re-engineered?”

The three key reasons for re-engineering ICBS are:

- To move to a system architecture that will allow the application to be used at local area caches so that the overall national cache inventory system can be utilized more efficiently;
- To meet essential cache business needs (e.g. improved reporting, ability to interface with other systems, etc.)

- To exchange data with the Resource Ordering and Status System (ROSS)

What is ICBS-R?

“ICBS-R” refers to the ICBS Re-engineering Project, which was chartered by the National Wildfire Coordinating Group in March 2003 to accomplish the above system re-engineering goals. The new application will still be called the Interagency Cache Business System or “ICBS.”

IMPLEMENTATION SCOPE:

Which caches will use the re-engineered application?

All national, local area and remote caches meeting National Fire Equipment System (NFES) standards are within the implementation scope of the ICBS-R Project. In early 2007, the ICBS-R Steering Group designated the following local area caches as the “priority” facilities for initial implementation of the new ICBS:

- Coeur d’Alene Interagency Fire Cache
- Billings Fire Cache
- Arkansas/Oklahoma Interagency Fire Cache
- Alaska State Fire Warehouse
- Eastern Idaho Interagency Fire Cache
- Elko District Fire Cache
- Las Vegas Fire Cache
- South Central Idaho Fire Cache

Initial attack caches (or “local caches”) are not targeted for using the re-engineered application.

What is a national interagency support cache?

According to the NFES Cache Management Plan (please see ICBS-R “Project Reference Materials” link on project website), a national interagency support cache (also called “national cache” or “geographic area cache”):

- Is the primary servicing Cache for a specific established Geographical Area as defined in the National Interagency Mobilization Guide.
- Serves multiple customers across governmental, agency, administrative and geographical boundaries.
- Follows established NFES standards in operating procedures (SOP), refurbishment and kit configurations.

There are eleven national caches in the NFES system, including two satellite cache locations of the Northwest Area Cache (in LaGrande, OR and Wenatchee, WA). The Alaska and Great Basin Caches are hosted by the DOI Bureau of Land Management. All other national caches are hosted by the USDA Forest Service.

What is a local area support cache?

According to the NFES Cache Management Plan, a local area support cache (“LASC” or “local area cache”):

- Provides direct support to more than one agency and generally covers more than a single administrative management unit within a Geographic Area. Boundaries are determined by the cooperating agencies and agreements.
- Follows established NFES standards in operating procedures (SOP), refurbishment and kit configurations.

The NWCG Fire Equipment Working Team (FEWT) has designated twenty-one current local area caches, hosted by a variety of federal and state NWCG agencies.

What is a remote cache?

According to the NFES Cache Management Plan, a remote cache:

- Is a cache established on a temporary basis, to meet extraordinary supply logistics needs. As an extension of a national cache, the servicing cache provides program oversight.
- Is managed by qualified personnel from national caches.

What is required in the new ICBS to stand up a remote cache?

When remote caches are established, a new cache organization can quickly be built in the new system as a generic copy of a national cache (i.e. using the “high volume” ICBS template). Once computer and network equipment are installed, shelving is labeled, and the facility is staffed and stocked, it can be up and running. This is very similar to how remote caches have been activated in the current ICBS system.

What is an initial attack cache (or “local cache”)?

According to the NFES Cache Management Plan, an initial attack cache:

- Generally provides single agency support to one administrative unit. It may provide interagency support based on local agreements.
- Cache inventory mainly is restricted to local use only and is not generally available for large-scale mobilization.

Initial attack/local caches are not within the implementation scope of the ICBS-R Project.

FOUNDATION PRODUCT:

Was the new ICBS built from scratch or is it based on a commercial product?

The application is based on a commercial-off-the-shelf (COTS) product known as Yantra® 7x.

What other enterprises rely on the Yantra product?

Well known Yantra clients include: FedEx, DHL, Best Buy, Target, Northrup-Grumman, Sysco, Lockheed-Martin, Motorola, Cabelas and Texas Instruments.

Why was a commercial off-the-shelf (COTS) application chosen to replace the existing ICBS?

All federal departments and agencies are required to evaluate and consider COTS (and Government off-the-shelf GOTS) applications before building any new information technology systems. For that reason, the ICBS-R design solicitation was open to both approaches: develop from scratch or COTS/GOTS approaches.

The commercial grade COTS Yantra product was selected by an interdisciplinary panel to replace the current ICBS. Extensive business requirements and design work was completed to identify the customization needed for the Yantra product to meet the cache system's unique requirements. Design, product customization, testing, and implementation support work is being performed by Sterling Commerce under a GSA task order awarded to Manugistics Corporation (now JDA).

Is the application re-engineering work being done in-house or by a commercial vendor?

This work is being performed by a commercial software vendor (Sterling Commerce) with continuous collaboration with an interagency group of government cache subject matter experts (SMEs).

Who is responsible for modifying the Yantra application to meet the needs of the cache community?

A Yantra ICBS-R Project Team, which is part of Sterling Commerce, is responsible for the design and customization of the COTS product. The Sterling Team, under the leadership of Project Manager Chad Hooker, works very closely with the government's ICBS-R Project Team to ensure the cache community's specific needs are incorporated in the customized product. Actual custom configuration and development work began in May 2006.

Will the customized application need to be rewritten when future versions of Yantra are released?

There could be a small number of system parts that will require some programming work in order to carry over in future COTS upgrades. But, to the extent possible, the Sterling team is modifying Yantra in such a way as to avoid the need for future programming work when the COTS application is upgraded.

FEATURES AND FUNCTIONALITY:

What features and functions will the new ICBS have?

The core Yantra product has a lot of inherent capability that current cache applications don't have. The most significant of these are: Automated Identification Technology or "AIT" (which means the ability to perform warehouse activities with a bar code scanning devices); discrete location level inventory (for real-time shelf-level accuracy); user-defined or "Ad Hoc" reporting; and a host of built-in logic that caches can take advantage of to optimize their warehouse operations.

What's the key difference between current systems and the new ICBS?

A significant aspect of the new ICBS is that the national cache system will work from a single centralized automated system rather than from numerous distributed databases. This will enable the cache community to realize increased system-wide efficiencies, but will require much more standardization than caches currently have (e.g. numbering, nomenclature, kit configuration, packaging and operational practices).

Will this be a big transition for the caches?

The Yantra product has been configured to support current cache processes with an eye toward introducing additional functions that support warehouse best practices in future phases. So, although there will be big changes, we're not trying to accomplish them all at once.

Since the system will “tell” an individual what item to pick and what location to pick it from, will it also direct them to pick the heavy items first to place on the bottom of the pallet?

The system will not direct the users to put heavy items on the bottom of the pallet. The only way to accomplish this would be based on position of heavy items within the zone it is being picked from and would most likely occur if the heavier items are in the lower-numbered locations within the zone. This strategy would also work for heavy, bulky or flat items.

Does the person pulling the order have to pick from the location that ICBS designates?

The user can override the suggested location for Picking and Put Away tasks.

Will the re-engineered system resemble the current ICBS application?

The re-engineered application will support current cache processes, but the screens that users see will be Yantra screens modified as necessary for the cache community. Moving to a more centralized architecture; AIT technology; and exchanging data with ROSS and other systems will require new screens and processes that don't exist in the current ICBS application.

Cache SMEs have worked with system design/development personnel to ensure that the re-engineered system is straightforward to operate and supports cache operations. Cache SMEs are conducting the beta test of the system in one or more actual cache environments. Feedback from cache personnel on the system prototype, which was demonstrated in May 2006, was overwhelmingly positive. Most participants preferred layout and functionality of the prototype screens to screens in their current applications. The fact that screens appeared different from the screens they're used to seeing was not an issue as long as the cache processes were supported by the application.

How will a single application work for the largest national cache and the smallest local area cache?

In order to accommodate the needs of all local area caches, the ICBS-R contractor is in the process of developing “high volume” and “low volume” templates of the new system. The high volume template will be used by all national caches and the largest and busiest local area caches. The low volume version will be targeted for the smaller and less active caches.

What has the ICBS-R Team done to ensure the product will meet the needs of the local area caches?

The team has done several things:

- During the business requirements phase of the project, 3-person teams of cache personnel visited a number of local area caches and documented their processes and requirements for an automated warehouse management system.
- The ICBS-R Project Team recruited two team members who are fulltime local area cache employees. These team members provide input on a continuous basis as members of the ICBS-R Business Requirements Team, and will be very involved in application beta testing. One is also the leader of the ICBS-R Implementation Team.
- Each Geographic Area has at least one ICBS-R Team Member with the responsibility to reach out to local area caches in his or her area and serve as a project point of contact for information dissemination and responding to questions.

In May 2006, personnel from seven local area caches visited the ICBS-R “demonstration cache” to learn about the new system and to participate in a focused one-day local area cache requirements session. Users gave the team positive feedback on the prototype and expressed a desire to use the new system.

PROCESS STANDARDIZATION:

Will the new ICBS require standardization of business processes from one cache to the next?

The ICBS-R project team recognizes that business processes vary from cache to cache. Because we’re moving to a centralized data base to be shared by all caches, some business process standardization will become necessary.

The project team has identified opportunities for standardization throughout the design process so that the national cache managers and project sponsors can implement standard processes wherever possible. Some variance is necessary due to different agency requirements. These are being accommodated in the new system on a case-by-case basis.

What about standard warehouse zones?

The COTS Yantra comes with extensive built-in logic. A number of “zones” within a warehouse are built into Yantra - each having specific functionality and relationships with other zones (e.g. Bulk Storage, Returns, Receiving, Shipping, etc.). The inherent logic determines how products move between zones in the warehouse.

The challenge for the Business Requirements Team and the national cache managers has been to select a standard set of zones that will best fit the needs of the caches. This common set of zones – some customized for the cache system (e.g. “Medical”) – will enable the application to be implemented as expediently as possible at each cache, without the need for custom programming at each site. If a cache has a unique requirement for a zone that a standard zone won’t satisfy, it can be configured as part of the implementation process at that cache.

What about a standard location numbering scheme?

A couple of benefits to using a standard location numbering scheme across all caches are: less variation will result in quicker implementation at each cache, and cache personnel will be familiar with the location numbering scheme when they take assignments at other caches (since there currently is no standard scheme in the cache community).

What's the importance of the location numbering?

An example of Yantra's built-in logic is that it will optimize the picking of orders or item by determining the shortest picking sequence in the facility. This is done through inherent algorithms that run behind the scenes in the application. In essence, the locations that are closest to the shipping area in each cache will typically be identified by the smallest numbers.

How are location numbers derived at each cache?

In order for the system to function correctly, storage and bulk storage locations will be identified by an eight-digit number following a zone identifier (e.g. STOR1-10030203, referring to Aisle 10; Bay 03; Level 02 and Bin 03). This system was approved by the National Cache Managers for the new ICBS in 2006.

Some of the other types of locations (e.g. shipping, returns, etc.) are numbered somewhat differently based on the particular needs of the zone (e.g. SHIP-SORT 1; RET-1; etc.).

What's the process for entering a specific cache's locations into ICBS?

When the new ICBS is implemented at each cache, project team members will assist cache personnel in laying out the location scheme. In some cases, items that are shipped most often might be moved closer to the shipping area. Or, if pallets are usually built with heavy, bulky or flat items at the bottom it might be advantageous to move these items closer to the shipping area so they'll be sequenced first in typical picking tasks.

Can a warehouse worker make a pick other than at the location the system suggests?

Yes, a user can always override the task sequence generated by the system, but setting up and labeling the locations in a standard way will help the system do a better job of suggesting the best picking or put-away order.

TERMINOLOGY:

Will terminology in the new ICBS be the same as that in the current ICBS?

Users of the new system will include current cache personnel who use a variety of applications (ICBS, InProTrak, Cache Tracker, WRAP, to name a few), and terminology is not consistent between these applications today. The ICBS-R Business Requirements Team has become familiar with the commercial sector warehouse management terminology found in Yantra and has tried to strike a balance between embracing more industry-standard terminology vs. using terms that are more relevant to the cache community as a whole.

Cache terminology has been used wherever possible; especially in cases where the team has determined that a term or acronym in Yantra will present a significant barrier to comprehension by cache users. The Sterling Team has advised the ICBS-R Project Team of those cases in which industry terminology is “hard coded” into the system. In these situations, changing a term throughout the application would be extremely cost prohibitive and would affect whether or not future releases of the COTS Yantra product would require rework in order to retain customizations made specifically for the cache community.

Several cache personnel have pointed out that different terminology has been adopted each time a new application has been implemented in the cache community, therefore making the transition will not be a big obstacle for system users.

How can I familiarize myself with terminology that is new to me?

A terminology reference is included in the self-directed eLearning tool, which will be used for training.

USER ROLES:

What roles will users have in the new ICBS?

Roles are called “user groups” in the new ICBS. User groups restrict and enable the permissions of the user belonging to that group. Several user groups are defined in ICBS for both the NWCG enterprise level (i.e. system-wide) and at the cache level (i.e. for a particular cache).

The following is a description of the current user groups in ICBS. Additions or modifications to these user groups will likely be necessary after beta testing and initial system implementation (for example, NWCG Helpdesk personnel might be assigned a number of user groups, or a separate user group might be established specifically for them). The National Cache Coordinator position would likely be assigned to the “Cross-Cache Inventory” and “NISCC Inquiry (Reports)” user group, to enable them to view and run system-wide inventory reports:

| User Group | Org. Level | Permissions | Configurator Access? |
|----------------------------|-------------------|---|-----------------------------|
| NWCG System Administrator | NWCG | Add/modify/delete rights to high level business rules, customers and units, process model and user profiles | Yes |
| NWCG Catalog Administrator | NWCG | Add/modify/delete access to catalog (including NFES items, NWCG organizations and vendors/suppliers) | Yes |
| Cross-Cache Inventory | NWCG | View access to cache-wide inventory | No |

| User Group | Org. Level | Permissions | Configurator Access? |
|---|------------|--|----------------------|
| NISCC Inquiry (Reports) | NWCG | Read/write access to NISCC reporting screens | No |
| Cache System Administrator | Cache | Read/write access to all cache-level configuration – including user profiles | Yes |
| Cache Catalog Administrator | Cache | Add/modify/delete access to cache-specific attributes of NFES catalog items | Yes |
| Supply Tech | Cache | Add/modify/delete access to transaction screens including all orders and issues | No |
| Order/Issue Entry | Cache | Add/view access to orders/issues | No |
| Cache Manager or his/her designee (assistant cache manager) | Cache | View access to all cache-level screens and cache-level configuration | Yes |
| Receiving Supervisor | Cache | Read/write access to receiving screens | No |
| Shipping Supervisor | Cache | Read/write access to outbound screens | No |
| Supply Supervisor | Cache | Read/write access to inventory screens | No |
| Procurement Supervisor | Cache | Read/write access to inbound screens | No |
| WMS Inquiry (Reports) | Cache | Read/write access to WMS reporting screens | No |
| Cache View-Only | Cache | View access to cache-level screens | No |
| Cache Mobile User | Cache | Read/write access to mobile consoles (AIT devices). Ad Hoc Move/Force Move ability would be restricted | No |

Will any users have multiple roles?

Many users will belong to more than one group and will therefore have various permissions within the new system.

Some users, particularly those involved in administering the system or data at the NWCG or cache level, will need to be trained in the use of Yantra Configurator in order to perform their role(s). This is a tool that allows a user to make changes to the program without having to be a Java programmer, and is used for changing settings such as: locations, zones, inventory rules, etc.

REPORTS and QUERIES:

Will the new system have the same standard reports that the current ICBS has?

Yes. The ICBS-R Business Requirements Team has analyzed each existing ICBS report and has determined which reports: are to be recreated in the new system; are not used and will not be built into the new system; and are to be recreated in the new system but with changes. In some cases, two or more current reports will be combined into one report that can be used for multiple purposes. This determination has been made by current ICBS and InProTrak users.

In addition to these specific cache reports, users will also have a number of “out-of-the-box” reports that have proven valuable to other Yantra users in the commercial sector.

Will I be able to build custom reports in the new system?

Yes, users will have an interface that will allow them to build their own “ad hoc” reports through the use of the Cognos® report writing tool. If desired, users can save these reports and run them whenever needed.

How will future standard reports be built?

A few “super users” of the system will be offered additional training in Cognos reporting so they can develop standard reports that can be used by all ICBS users.

What sort of queries can a user perform in the new system?

Yantra has extensive inherent search and query capabilities.

CACHE HARDWARE, LICENSING AND NETWORKS:

What sort of hardware will caches need to provide in order to use the new system?

A cache or its host agency will need to provide one or more suitable Pentium® PCs from which the user will access a host server at the National Information Technology Center (NITC). The project has published a document outlining computer specifications: http://icbs.nwcg.gov/Documentation/6610_icbsr硬件软件要求_2006_0825.pdf

Greater real-time accuracy can be gained if system users input data for some warehouse processes (e.g. kit building) via a PC in the warehouse, rather than making notes on a system-generated form for later input by a supply technician in the office. For this reason, some caches should consider adding a PC in the warehouse area if they don't have one now.

Will caches need to purchase user licenses for the new software?

No. The government has purchased a license that allows use of the system by any NWCG agencies, so user licenses for individual caches will not be required.

What sort of network will a cache need to run the ICBS application?

The Yantra system (application, data base and associated software components), is hosted on computers at NITC (the USDA's National Information Technology Center). The cache will need an agency network or an internet connection in order to access the system. To use wireless bar code scanning devices, a Wireless Local Area Network (WLAN) will also be required. This topic is addressed below.

PRINTING:

Will users be able to use existing cache printers to print ICBS reports?

For the most part, ICBS reports and forms will print on existing printers, but because print jobs will be generated by the centralized application, only networked printers will be used. Forest Service and Bureau of Land Management caches will use slightly different network architectures to perform printing. USDA, NITC, Forest Service and BLM network specialists are currently establishing and testing the printing architecture for each cache that will use the new ICBS. A solution for caches on state networks (e.g. the Alaska State Fire Warehouse in Fairbanks) is yet to be developed and tested.

Cognos® report writer and Loftware® label making software, hosted at NITC, are the actual applications that will enable report, form and label printing. Network printers must be supported by these applications in order for users to print reports. There are at least twenty-five different label and inkjet printers currently in use in the national and local area caches, so it's almost certain that some printers may have to be replaced with different models.

Several ICBS reports will have been tested on a few different laser printers, using the Cognos and Loftware software, as part of ICBS-R beta testing activities. As each cache is brought online, a representative group of reports can be tested with the laser/ink jet printers in that cache, to determine whether or not they can be used with the new ICBS.

Will the ICBS-R Project recommend supported printer models?

As beta testing is completed and ICBS is rolled out, the project team will develop a short list of recommended printers. This will include makes/models currently available from FS, BLM (and perhaps state) contracts. Having a relatively small number of printer types will simplify the printer support model for the agencies and caches.

What sort of printers will be required to produce bar code labels, and will they be provided by the ICBS-R Project?

The project has evaluated several printers and has selected an industrial grade networked label printer (the Zebra Z4M Plus) to be used with ICBS. This printer will work with the two key software programs (Yantra and Loftware) and will enable cache personnel to print location bar code labels and box labels with bar codes for labeling NFES items. The project procured label printers and label stock for the national caches and a few of the largest local area caches. These will be distributed to caches that will use AIT prior to implementation.

Because each type of label needs to be configured in Loftware for the printer that will print it, the Zebra Z4M Plus printers are the only label printers that the project plans to support for label printing. In the long term, it is less expensive for the government to procure additional Zebra Z4M Plus printers from GSA schedule vendors than it is to support a variety of different label printers in the caches. This will also simplify the label printer support model for the caches.

How will bar-coded inventory (box) labels be printed?

Inventory (i.e. box) labels will be printed using the inherent Yantra (ICBS) application. The out-of-the-box label has been modified slightly to include the NWCG cache identifier and a place for notes to be written if desired.

How will bar-coded location labels be printed?

There is no “out-of-the-box” location label printing functionality in Yantra. Commercial enterprises that use the Yantra product either use a separate stand-alone bar code location label software product, or they order location labels from a third party provider for the initial and subsequent location labels for their warehouse/distribution centers.

The ICBS-R project is currently working with the technical specialists at NITC to develop a mechanism for authorized users at each cache to access the Loftware software at NITC to print these labels.

BAR CODE SCANNING:

Will the re-engineered system involve bar code or other types of scanning?

Yes. Use of Automated ID Technology, or “AIT,” is a requirement of the re-engineered application. A task group of cache SMEs developed AIT standards in the areas of labeling, scanning hardware and cache processes. The project will utilize the 3 of 9 (one dimensional) bar code to identify cache supply items. Additionally, a cross-reference table will be included in ICBS to allow cache users to scan GSA labels for encoded NSNs (national stock numbers) to facilitate the receiving function.

Can other NWCG systems use the bar codes on cache supply labels?

The ICBS-R AIT Task Group collaborated with representatives of other projects to ensure that ICBS use of bar codes is compatible with other systems in use or being developed for use in the incident arena. Most significantly, the Incident Based Automation (IBA) Project will follow the lead of the ICBS-R project in utilizing an identical bar code labeling/scanning scheme so that the same bar code labels may be scanned at a cache and at an incident to input data into the appropriate tracking system.

Is use of AIT mandatory, or can a cache get by using system printouts, notes and after-the-fact data entry as they currently do with ICBS and other systems?

The customized version of Yantra that will be deployed is a hybrid AIT/forms model, which will allow caches to do business with scanners or in a paper-based mode. However, to realize the greatest benefit from the Yantra product, implementing AIT is essential. All national caches are expected to use AIT.

Some of the local area caches may see benefits in implementing AIT, and others may not. Use of AIT in all but the largest of these caches will be looked at on a case-by-case basis during implementation. Beta testing will include the use of AIT at a low volume cache in order to evaluate the potential benefits in those facilities.

What is RFID?

Radio Frequency Identification (RFID) is a form of AIT, which is coming into its own in the commercial world. Most notably, WalMart® requires its suppliers to provide RFID chips in products it sells. On the government side, the Department of Defense (DoD) is implementing RFID in a phased manner.

Why isn't RFID being implemented now?

RFID technology is still maturing and there is some question as to which standard(s) will rise to the top and become the most widely accepted in commercial or government sectors. RFID chips can carry much more data than a 1 dimensional or 2 dimensional bar code label, but that capacity comes at a higher cost.

The ICBS-R Project and national cache managers plan to implement bar code scanning first, before considering RFID technology. The scanning devices that ICBS-R procured for the caches are not RFID capable, but after-market accessories are available to retrofit the devices should the caches opt to implement RFID in the future. If and when that decision is made, a cost benefit analysis would be needed to determine whether retrofitting or replacement would be the best option for the cache community.

Looking ahead, ICBS-R team members and Sterling experts feel that perhaps the most logical use of RFID in the future might be to tag sensitive, high value or trackable inventory, because of the increased amount of data that can be stored on RFID tags. A complete maintenance record for a pump or radio, for example, could theoretically be stored on an RFID tag, and could be viewed by any cache where the item was returned for refurbishment.

Is the project providing AIT Equipment for the caches?

Team members and other specialists evaluated industrial grade wireless mobile computer (scanning) devices from three leading vendors and selected a model (the Symbol MG9090G) that best meets the requirements of the cache system. In 2006 the project purchased 200 of these devices and related accessories to initially outfit the national caches and a few of the largest local area caches.

If a cache determines it needs additional AIT equipment, how will it obtain it?

Additional equipment would need to be purchased by the host agencies of the caches themselves. This equipment will be available for purchase via GSA schedule. To reduce the complexity of installing, configuring and supporting the equipment, caches will be asked to purchase the same make/model device (or subsequent upgrades) as the project initially purchased.

Vendors might also make AIT equipment available on a lease basis. This could help caches that experience only an occasional need to greatly expand their staffing, or to equip remote caches.

What is the expected life cycle of the AIT equipment?

The Symbol AIT devices that have been purchased for the caches are very versatile and will easily accept software upgrades in the future. The project expects these devices to be serviceable for eight to ten years.

How will caches obtain repair or replacement service for the AIT devices?

At time of purchase, the project obtained a 3-year service plan from Lowry Computers covering each device. Details on how to obtain repair/replacement services for the devices will be available when the equipment is deployed.

What benefits will the introduction of AIT bring to the caches?

AIT brings greater real-time accuracy of the inventory and therefore enhanced efficiency. In other warehouse/distribution center centers, introducing AIT has greatly increased inventory visibility throughout the supply chain, allowing enterprises to reduce the size of their inventory and reduce overhead costs.

The Alaska Interagency Cache has used bar code scanning for several years and has found that the number of personnel hours needed to conduct an annual physical inventory count is significantly reduced. Cache managers will also have the option to run cycle counts on specific locations in the cache, or throughout the cache on a random or selected basis. Experience in other facilities has shown that when regular cycle counting is used (e.g. to count the complete cache every 3, 6 or 12 months), inventory accuracy improves dramatically and inventory loss is significantly reduced.

What changes will be required in caches in order to implement AIT?

In order to realize the benefits of AIT, many processes that are currently input after-the-fact in a cache office will be performed on the warehouse floor using a scanning device. This will require greater discipline on the part of warehouse personnel. Every time an item is moved to or from a location, an item bar code and a location bar code must be scanned and the quantity entered on the device. This is how real-time inventory visibility is achieved.

During the transition period, workers may wish to use hard copy printouts and keep notes as a back-up method, until they build confidence in the new AIT-based system. Experience at commercial warehouse/distribution facilities (where most of the workforce consists of a mix of permanent and temporary employees like the fire caches) has shown that people adapt to the new technology very quickly.

Will all cache processes be supported by AIT?

Almost all cache processes are AIT-enabled in the new ICBS. The most significant exception is the returns and workorder process, for which there is currently no AIT module.

Like most sophisticated warehouse management systems, the out-of-the-box Yantra has a returns component, but the complexity of processing returns in the cache system is such that a new module had to be built to accommodate it in the new ICBS. This module is not currently AIT-enabled.

Are there plans to provide AIT-enabled returns and workorder functionality?

Scanning returns from incidents, would tell managers immediately what supplies were in the pipeline and available for restocking or refurbishment. This would reduce instances of unnecessary restock orders to GSA or other vendors to meet incident needs.

Recognizing these potential benefits, the ICBS-R Steering Group has authorized the project to develop, test and deploy an AIT component for these processes as an ICBS enhancement after the first release. If adequate project funding is received in FY2008, this component should be delivered during the 2008 calendar year.

WIRELESS NETWORKS:

Will the project provide wireless networks in the caches to support the AIT devices?

In FY2007 the project received a limited amount of funding to procure wireless local area network (WLAN) equipment for all national caches and a few large LASCs. Working with agency telecommunications specialists, a three-person “ICBS-R Wireless Team” is in the process of installing WLANs at each cache that will use AIT.

Our intention is to outfit all the caches that will be using AIT with WLANs, but funding will determine whether the project procures them or host agencies do.

What agency security requirements do the WLANs and AIT devices need to meet?

The project received USDA, Forest Service, DOI and Bureau of Land Management approval to install and use WLANs and wireless AIT devices in caches.

All appropriate security requirements (e.g. WAP2, IEEE 802.11i and FIPS 140-2) are being adhered to. Agency network specialists will actually connect the WLANs to the networks so that the devices can communicate with ICBS. Some differences are emerging in how the FS and BLM will configure and control cache wireless networks to meet their specific requirements, but those differences should be mostly transparent to scanning device users in the caches.

FEDEX AND UPS SHIPPING:

Will there be any changes in how small parcels are shipped by caches?

One feature of the Yantra product is that it can integrate with third party parcel shipping software through the use of “Yantra Carrier Server” (YCS). This will allow shipment information to be entered automatically into ICBS when a pickup is scheduled with a parcel service.

Caches currently use FedEx® and UPS® as their primary parcel services. FedEx “RXRS” shipping software will be included in the first implementation of ICBS. Once that is successfully integrated into cache processes, the project plans to obtain the UPS “Connect Ship” software and integrate it through Yantra Carrier Server.

Will caches need new FedEx or UPS accounts in order to take advantage of this?

Caches with existing FedEx accounts will be able to use Carrier Server software with their current account. Caches without FedEx accounts will need to establish an account in order to use FedEx and Carrier Server. In this case, coordination will need to occur between the cache, the ICBS-R Project Team and FedEx in order to set up the service.

When UPS Connect Ship server software is deployed in a later phase of the project, we will determine whether or not the current UPS accounts can be used with Carrier Server.

Will I need to replace my current parcel scale to use this function?

In 2006 the ICBS-R Project purchased Mettler-Toledo® manifest station scales for each of the main caches to enable them to use in conjunction with Yantra Carrier Server.

INTERFACE WITH ROSS:

What changes will the interface with ROSS bring to ICBS users?

A significant number of supply requests are placed with caches by dispatchers. This is currently done in a variety of ways – primarily by faxing hand written supply orders, or hard copy ROSS resource orders to the caches. An interface with ROSS is being developed so that this process can be automated. Our ultimate objective is to allow ICBS users to receive and process requests electronically, without having to manually enter them into ICBS. This will include current processes such as forwarding single or multiple requests to other caches, back-ordering, substitutions, etc.

There are a number of issues that have to be resolved before this can happen. The terminology and business practices used by dispatchers and cache personnel do not align very well, and practices vary considerably from one dispatch office to another and from one cache to another. These differences run the gamut: resource order numbering format, request numbering, use of single/multiple financial codes per order or request, mandatory/non-mandatory information, shipping addresses and instructions, grouping of requests by order or issue, contact information formatting, etc.

In order to develop a workable automated solution that will work across the country, some changes to business practices will be noticeable to each ICBS user (and each ROSS user). Subject Matter Experts (SMEs) from the ICBS-R and ROSS Teams are helping developers with an interface design that will meet the needs of both communities.

Will cache personnel use ROSS to process supply orders?

No, cache personnel will use ICBS for supply orders. If caches need to order personnel or equipment for cache operations, they will follow whatever protocol exists with their local dispatch office to order those resources.

How will orders be received from ROSS?

The ROSS-ICBS interface will allow requests to be sent electronically from dispatch offices to caches. How that information will be presented in ICBS is still being designed. Receiving faxed ROSS resource orders for supplies should become a very rare occurrence.

As mentioned above, there is no nationwide standard on how groups of requests are placed by dispatch offices to caches (e.g. grouped by incident, finance code, “deliver to” location, “will pick up at cache,” etc.). A workable solution to this is being developed by the interface team.

How will caches process “direct orders” for supplies?

Caches receive a significant number of supply requests directly from incidents, and ICBS users will need the ability to process these. The method by which these will be entered into the system will be very similar to how they are entered today.

Now that ROSS and ICBS will be interfaced, there needs to be a way to ensure data integrity between the two systems. For example, before an incident request number is generated in ICBS, the system will check against the request numbers already assigned by ROSS, so that duplicate request numbers are not assigned to different requests. Interface developers are designing a mechanism to provide this data exchange without unduly impacting system performance.

OTHER INTERFACES:

What other systems will the re-engineered system interface or exchange data with?

The ICBS-R Charter requires the re-engineered system to exchange data with the Resource Ordering and Status System (ROSS) and with the BLM’s Collection and Billing System (CBS). Work on the interface between ICBS and ROSS is now underway. We expect to have that ready for testing and deployment in early to mid-2008.

Work on an interface with CBS was put on hold in 2006 due to changes in the Treasury Department’s Pay.gov system. Because of anticipated changes to Pay.gov, technical specialists with the BLM’s National Business Center (NBC) and the Sterling ICBS-R Team studied various technical alternatives. In September 2007, they recommended an approach of interfacing ICBS with Pay.gov directly and posting data for the CBS to retrieve, and this was approved by NIFC BLM IT Management.

The Sterling ICBS-R and NBC teams are now collaborating on the design, development of this solution. In any event, the first release of the new ICBS will not have an interface with CBS.

Will ICBS interface with financial or property management systems?

The ICBS-R charter requires the new system to have the capability to share finance, accounting and property management data with external systems, although data exchange with those systems has not been funded or added to the project scope at this time.

Yantra conforms to industry standard “service oriented architecture” (SOA), which, in theory anyway, makes it easier for the new ICBS to exchange data with other systems. Nonetheless, integration with any system still represents a major effort.

DATA MANAGEMENT:

Why is data management important?

Moving to a centralized database within the cache system and interfacing with external systems such as ROSS make the importance of data integrity critical.

What sort of data preparation is being done prior to implementation?

Due to the decentralized nature of the legacy ICBS and InProTrak databases, data cleanup and rationalization has been a huge job. “Data cleanup” refers to making sure the data is valid, and "rationalization" is the process of identifying the commonalities among data in several different databases, and changing the data or structures to reach a standard meaningful set of data. The ICBS-R Business Requirements Team has undertaken this work in close collaboration with a primary system user in each cache.

The key focus area for data preparation has been the item catalog. Cache and team members have eliminated a very significant amount of erroneous data, and have identified and eliminated scores of redundant items in the catalog. This work is ongoing.

Will data in the current ICBS system be migrated to the re-engineered system?

The ICBS-R Data Migration Plan includes migration of existing ICBS reference data to the re-engineered system. To the extent practical, reference data in InProTrak (used by the Alaska Interagency Cache) will also be migrated to the new system. Transactional data (e.g. receipts, issues, returns, work orders, inventory moves, inventory adjustments, etc.) will not be migrated to the new system.

Will historical transactional data be available for running reports, etc.?

Cache personnel often have to retrieve transactional information (e.g. issues, returns, receipts, etc.) for months or years after an incident or sale has been closed out. The ICBS-R project team has been working with the current ICBS custodians and the ICBS-R Steering Group to explore ways in which the data from the current ICBS and InProTrak can be retained for users to query once the new ICBS has been implemented.

The project has proposed funding and staffing a “sub-project” to clean up, rationalize and migrate this data to a “data warehouse” where users will be able to retrieve and run reports against the historical ICBS and InProTrak data. Whether or not we’ll be able to pursue this is dependent on FY2008 project funding. If we receive the funds, the

decentralized nature of the current databases, and data definition differences between current systems and the new system, will make this effort a large undertaking.

How will data be managed in the new system?

With the current ICBS and InProTrak systems, users have enjoyed the luxury of managing and working from their own cache-specific databases. As we move to a centralized model, data management will likewise have to be more centralized in order to ensure data integrity across the cache enterprise. The project team, working with input from the Sterling ICBS-R Team, has developed a data management model which, if followed, will provide a high level of system-wide data integrity, and provide users with the data they need to perform their work.

How will catalog data be managed?

Several alternatives were explored for managing the item master catalog in the new ICBS. A huge investment has been made in catalog cleanup and rationalization prior to implementing the new system.

A very small group of “NWCG Catalog Administrators” (probably two people) will be trained to administer the ICBS item catalog. This will ensure that users will have consistent and accurate catalog to work with when they use ICBS. For this centralized model to be effective, the NWCG Catalog Administrators will need to provide very responsive service to the ICBS users. It is suggested that a service level agreement (SLA) with performance metrics be developed and implemented in the cache community.

What about cache-specific catalog attributes?

Another ICBS user role, “Cache Catalog Administrator,” is available to cache personnel. This role will have the authority to add, modify, and delete cache-specific attributes of the item master catalog items. This role is necessary due to the requirement in some caches – specifically state-hosted facilities – to track some cache-specific costs and other attributes for each catalog item.

How will local items be managed?

A concern of ICBS users is the management of cache-specific or “local items.” To ensure data integrity and eliminate redundant items in the new centralized system, all catalog items, including what were known as “local items” in the legacy ICBS, will be managed by “NWCG Catalog Administrators.”

How will organizational data be managed in the new system?

To answer this question, we need to provide some background on the new NESS system. The new ICBS is one of several fire and aviation systems that will make up the National Enterprise Service System (NESS) architecture at NITC. Other systems include FPA (Fire Program Analysis), ROSS (Resource Ordering and Status System), FAMWEB, FAM Data Warehouse, I-Suite, and the NWCG OIS (Organizational Information System).

One aspect of NESS is for these closely related “fire” applications to share data (like organizations) that is common to more than one system. This ensures data integrity between systems and reduces the overall costs of system hardware. For example, rather than having a record of the Boise National Forest and all its attributes (e.g. NWCG Unit ID, agency, region/area, shipping address, billing address, geographic location, etc.) in the database of each application, one copy can be housed in NESS and each application can use the same record for its purposes.

As part of the long-term strategy to move toward a centralized NESS organizational repository, which provides this data to several information systems, organizational data will need be centralized and tightly managed in ICBS.

When ICBS is released initially, users will access organizational data in the ICBS database, because the NWCG OIS (Organization Information System) will not yet have been deployed at NITC. The ICBS database will have been populated with master data on as many organizations (e.g. customers, vendor/suppliers, etc.) as is available. This will include data for most all wildland agency organizations for which the NWCG has information.

How valid and how complete will this organizational data be?

When ICBS is released, it will be loaded with a base set of customer and vendor/supplier records. As part of the preparation to bring each cache online, additional customer and vendor/supplier records will be entered.

Will the organizational data I need be in the new system?

Because the ICBS and ROSS systems will eventually be interfaced and sharing organizational data, it’s critical that valid and consistent data is used in the two systems. Management of organizational data in the ROSS and ICBS systems will most likely be limited to a very small number of users (“NWCG Catalog Administrator” user group) to ensure that when ROSS and ICBS are interfaced in a subsequent release, data integrity between the systems will be maintained.

That said, users must have a way to ensure additions, deletions and changes can be made in a timely manner in order for them to perform their jobs (e.g. personnel from the Six Rivers National Forest notify the Northern California Cache that its shipping address has changed). The project suggests that a service level agreement (SLA) with performance metrics be developed and implemented so that users’ needs will be met by the group that performs this service.

How will the OIS affect ICBS?

Under the direction of the NWCG, an OIS team has been building a master database of organizational information gleaned from several existing “fire” systems databases. This database currently contains over 1,900 organizations. A large data cleanup and rationalization process, similar to that which ICBS users have been doing, is being performed by the OIS team to ensure that the highest quality data is available. This data preparation work has been underway for over two years.

The OIS will replace the current NWCG Unit ID Repository, and will be much more robust, however ICBS users will have to provide some attributes that currently are incomplete in the database (e.g. shipping addresses).

The OIS will not contain vendor organization. In the future, another repository which is focused on Vendor Information will be developed.

Who will maintain OIS data?

Data corrections to organization data will be through a single point of contact. Information on how this will be done will be released in early 2008.

CONTINUITY OF OPERATIONS AND DISASTER RECOVERY:

How will caches continue to operate if they lose network connection?

The USDA and DOI have dial-up modem pools, and each Forest Service Region has Remote Access Servers (modems) which are used to dial in. Each cache should document and test this capability as part of its preparation for implementing ICBS. In any case, access to an operational phone line and a laptop or PC with a modem would be required for these options.

Those caches with access to the internet via more than one network should test each one and identify opportunities for backup connectivity.

What about going back to paper-based processes?

Operating with paper forms as a contingency is another option. Many caches currently use this approach when they lose power or access to their ICBS server. The Implementation Team will develop a Continuity of Operations Plan (COOP) template, based on the best of those used for other systems, in the ICBS-R Implementation Plan. Each cache will complete a COOP identifying various contingencies prior to implementation of the new ICBS.

TESTING:

How will the re-engineered application be tested?

The system developer is conducting comprehensive configuration management and internal testing processes. Once internal testing has been completed on each portion of the application, cache SMEs conduct beta testing of that portion using realistic scenarios and data.

Project team members, who are fulltime cache personnel, have developed several hundred test cases for beta testing. Each test case is being run in a “double blind” manner with two or more testers. The product will have gone through extensive structured testing prior to being implemented in the cache community.

Performance testing is also being done to ensure that the servers on which the application is installed are sized and tuned for maximum system performance and responsiveness.

TRAINING:

How will training on the re-engineered application be delivered?

Ready access to high quality training has always been a big issue for the cache community. The ICBS-R Project Charter requires the project to develop formal and online user training. Various options have been explored for best preparing ICBS users.

Because caches have an ongoing need to train users (e.g. seasonal/AD/EFF employees coming on board at different times of the year), the Implementation Team has determined that on-demand “e-learning” will best meet the needs of ICBS users. This type of training product can be updated as needed and available to anyone with an internet connection.

The Yantra product itself comes with standard eLearning modules. Because caches will be using a highly modified version of Yantra, the project has invested in a customized version of the Yantra eLearning tool. A prototype has been tested by several cache personnel and a final version will be available in time for implementation.

Is classroom training also an option?

The project expects that some Cache Managers would prefer to have formal classroom style training sessions provided for users in their cache or geographic area. If this is the case, the eLearning tool, along with PCs with an internet connection, can be the basis for this training.

USER SUPPORT:

What sort of support will be available for users?

A user support organization (or “help desk”) will be staffed and trained in the Yantra application and available to help users of the new system. The ICBS-R Project is exploring various alternatives for providing this service (e.g. stand-alone contracted help desk, existing contracted help desk, etc.).

Who will provide continuing support of the new ICBS?

Like many of the new NWCG and agency system, Yantra is a Java® -based application. The specific skills to maintain these applications generally don’t exist within the NWCG agencies, so contracted support will be required. The project has requested life cycle operations and maintenance (O&M) support for up to ten years from the date of contract award, and will work with agency leadership to identify the best group to provide this support.

IMPLEMENTATION SCHEDULE:

When is the re-engineered application going to be ready to use at national and local area caches?

Beta testing began in earnest in January 2007, but we soon encountered problems with networked printing. Working with department and agency network specialists, it took until July to resolve these, and testing is now expected to be completed by November.

Contingent upon successful beta testing, implementation at national caches is scheduled to begin in December 2007.

Which caches will be implemented first?

The ICBS-R Implementation Team Leader, working with the Sterling Team, developed an ICBS implementation plan and deployment strategy. They determined that implementing the system at all national caches first would derive the greatest initial benefit to the overall cache community.

Several factors have been considered in determining the sequence of roll-out at national caches (e.g. historical incident activity, size, workload, any special inventory variations, refurbishment processes, staffing, physical inventory schedule, proximity to major Lower 48 airport hub, IT infrastructure, etc.). Based on the above factors, the team selected the Rocky Mountain Cache (RMK) to be the first cache to implement the new ICBS. Preparation will occur in November 2007, and implementation is scheduled for December 2007/January 2008. Following implementation at RMK, the Prescott and Southern Area Caches are tentatively scheduled to implement the new system.

When and how will local area caches be implemented?

Following successful implementation at the national caches, ICBS will be rolled out to the local area support caches. During that phase, national cache personnel who are familiar with ICBS can help coach users in the LASCs.

CACHE PREPARATION:

What can a cache do now to prepare for implementation of the new ICBS?

Cache personnel have already taken significant steps to prepare for implementation by working with the project team on such things as: requirements documentation; providing cache diagrams; working with the ICBS-R Wireless Team to prepare for wireless LAN installation; developing common warehouse zones and a location numbering scheme; providing information on existing hardware like PCs, printers and networks; and hosting cache tours for Sterling contract personnel to help them better understand cache operations. The caches have also worked closely with the Business Requirements team on ICBS data cleanup and rationalization.

What sort of things will a cache need to do just prior to implementation?

As we get closer to rolling out the new system at your cache, Sterling and government team members will need to work with your personnel to prepare the cache for implementation. This will involve: providing the team with information on your storage locations and what items you store in each of them; location and inventory labeling;

setting up zones and locations for your cache in the ICBS database; entering cache-specific inventory rules in ICBS; making any desired inventory movements prior to implementation; conducting a complete physical inventory just prior to going live to ensure inventory accuracy; deploying and testing scanning devices on the WLAN; etc.

When should caches adopt the new standard location numbering?

The project suggests that caches layout their new location numbering, and post the new numbers alongside the current location designators so that cache personnel can begin familiarizing themselves with them. Most cache managers will opt not to change locations in their legacy system (e.g. ICBS, InProTrak, WRAP, etc.) to the new numbering, but rather will wait until the new ICBS is implemented at their cache.

Will we need to move any of our inventory around in the warehouse?

We don't anticipate the need for caches to have to move their inventory prior to implementation. However, within any given storage zone, cache managers can consider moving some of their fast moving ("high velocity") items, and items that they like to load first on pallets (e.g. heavy, bulky or flat items) to lower-numbered picking locations.

The new ICBS system will generate tasks based on most efficient picking and put-away locations, so this strategy can help maximize the potential of the system. We will learn more on how to take advantage of this as more caches are brought online.

What else can we do to prepare?

Future users of the new ICBS can keep in touch with ICBS-R team members in their geographic area and visit the ICBS-R website (icbs.nwcg.gov) on a regular basis to keep up on project developments.

What can we do to help bring on other caches?

Once training is offered on the new system, cache personnel can learn all they can about the re-engineered system so that they can share this knowledge and help others. Once implementation at national caches begins, local area cache personnel can take cache assignments and begin learning the new system.

LONG-TERM MAINTENANCE:

What are the plans for supporting ICBS once it's been implemented?

Operation and maintenance (O & M) of the system has to be accounted for throughout its life span. Because ICBS is based on a commercial product, the core product will be maintained by Sterling Commerce, however fixes, patches, and periodic upgrades will have to be tested and applied to the "NWCG version" of the product, which is ICBS.

The Project Team has projected a ten year budget plan to operate and maintain ICBS. Approval of this budget each year is the responsibility of the NWCG "managing partner agency," which is the Forest Service.

What does Operations and Maintenance (O & M) entail?

Operations and Maintenance include such items as day-to-day systems administration, which is the responsibility of the staff at NITC; testing and applying fixes, upgrades and new releases, which is the responsibility of an ICBS O&M contractor still to be hired; and routine data administration, which is the responsibility of ICBS users with those roles (i.e. NWCG and Cache Data Administrators; NWCG and Cache System Administrators). O & M also includes change control/management activities.

How are change management items addressed?

During development of the system, the ICBS-R Project Team, which is mainly comprised of cache personnel, is responsible for determining which “change items” are high or low priority. The team addresses just those items that are within the project scope, as outlined in the ICBS-R Charter.

Prioritizing out-of-scope change items, including enhancements, is the responsibility of the ICBS-R Steering Group. These are written up by the ICBS-R Project Team and presented to the Steering Group. If funding beyond what has been budgeted is required to complete this work, the Steering Group is charged with obtaining it from the appropriate agency.

Any change/enhancement request that is approved and funded by the government will be developed, tested and deployed by the ICBS-R O & M contractor in collaboration with government subject matter experts (SMEs).

How can ICBS users submit change requests to the project?

A “Suggestions/Change Requests” link has been posted on the ICBS-R Project website (<http://icbs.nwcg.gov/suggestion.html>) for users to submit change requests.

Once ICBS is implemented in the Cache Community, who will be responsible for change management?

An ICBS Change Control Board (CCB), with representatives from the cache community will be designated by cache leadership to manage the change management process. As long as an ICBS-R Project Team exists, a representative from that group will also be part of the ICBS CCB.