

The Wildland Fire I&T Program Board recommends to the Executive Management Board the following “To Be” high level technical architecture objectives.

### **Background**

The interagency wildland fire and aviation community has established a set of high level IT Target Architecture Objectives. These objectives provide developers, operations and maintenance staff and managers with direction on how interagency systems are to be developed and delivered. It also provides direction on establishing authoritative data sources. These objectives will be utilized for any new application development as well as for upgrading existing applications.

Principles: The principles on which the Wildland Fire I&T (WFI&T) Architecture is based upon are:

- Business processes and operations will drive changes to information systems and the technology infrastructure
- WFI&T will preserve and leverage information systems and technology assets for as long as those assets deliver net business value over the benefits of replacement
- Provide the data, tools, and technologies needed to improve and strengthen the ability to make sound and timely strategic and tactical wildland fire management decisions
- Increase the effectiveness and efficiency of the wildland fire program through re-engineering of processes and activities
- Encourage and leverage innovation

Adhering to these philosophies, WFI&T anticipates that the interagency fire IT organizations will move away from their traditional systems to systems that are more componentized, easier to integrate and maintain, and have lower total cost of ownership (TCO).

### **Architecture Objective 1;**

#### Service Oriented Architecture

All new application development shall utilize a Service Oriented Architecture approach that incorporates a set of principles and methodologies for designing and developing software in the form of interoperable services. These services shall have well-defined business functionalities that are built as software components (discrete pieces of code and/or data structures) which can be reused for different purposes. SOA design principles shall be used during the phases of systems development and integration. In addition, an inventory of existing wildland fire applications and data shall be conducted to identify existing services that can potentially be reused that are consistent with a SOA.

## **Architecture Objective 2;**

### Integrated Security Posture

The interagency wildland fire and aviation community has identified a need for a single sign-on capability that crosses Departmental boundaries. Bureau and Agency IT security managers working with the CIO's office shall develop a set of short term actions that mitigate the current inability to meet the single sign-on requirement as well as a long term solution for implementing a single sign-on capability across Departmental boundaries.

## **Architecture Objective 3;**

### Web User Interface

All new applications shall be developed to utilize a Web User Interface. These web browser interface tools should require no special client operating system, configuration or license requirements. In addition, common user interface standards shall be utilized to provide the end user with a consistent look and feel for these applications.

Specifically, envisioned protocols for WFI&T Web based platforms are that they are designed to be interoperable and universal. This includes:

- Allowing for the interoperability and seamless exchange of information from authoritative data interagency resources; and,
- Allowing for the development of cross-platform open standard applications and solutions that are platform agnostic, including mobile platforms.

As we move into an "always on" world where internet connectivity becomes more and more of a given, development of these open web platforms and web applications will enable us to respond quickly in rapidly changing and uncertain mobile platform future.

## **Architecture Objective 4;**

### Cloud Hosted Architecture

All new applications shall be developed to reside in a cloud environment and to maximize the capabilities that a cloud hosting environment provide. These capabilities include: increased accessibility, accountability, scalability, and reliability. Any cloud services must ensure that all IT security requirements as identified in FISMA have been met or exceeded. Cloud contracting services will be made available through Departmental contract vehicles.

## **Architecture Objective 5;**

### Data Services and Governance

The interagency wildland fire community shall complete an inventory of systems for business function and data. This inventory shall identify systems of record, identify data and functionality that can be reused and eliminate redundancies. The wildland fire community working with the CIO's office will create an enterprise process for establishing the authoritativeness of derived data. In addition, authorities will be established for resolving data definition and description conflicts. The wildland fire community working with the CIO's office will establish wildland fire data formatting and exchange standards.

## **Architecture Objective 6;**

### Open Innovation Platform

The interagency wildland fire community, working with the CIO's office shall establish a cloud hosted open innovation environment that hosts integrated versions of mission systems and forums for idea exchange. This environment shall be used to develop and test new tools and methods, integrate them into operational systems and provide training. This will reduce the time needed to integrate tools and methods into existing systems. It will also provide a structured environment that supports creativity and innovation.