Esri Defense Mapping: Enterprise Production Management

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Esri Defense Mapping
EXTENSION TO ARCGIS
Esri Defense Mapping
Produce, Manage, and Share Authoritative Content

System of Record

Desktop

Server

Apps

System of Engagement

Web GIS

Services
Mission Critical Information

- Specification Driven
- Quality Controlled
- Automated & Efficient
- Standardized Workflows
Esri Defense Mapping
Enabling Defense Authoritative Content Producers and Users

- Defense Mapping as a Platform
  - Produce Authoritative Content
  - Manage Production Environment
  - Share and Collaborate
Providing Authoritative Defense Content
Integrated Across the ArcGIS Platform

Collect / Produce

Manage / Share

Disconnected Editing

Land Operations

Map Applications

Executive Access

Specifications

Data Models

ETL

Authoritative Content

Server

Online Content and Services

Workflows
Esri Defense Mapping
Defense Mapping in ArcMap and ArcCatalog

- Specifications
- Geoprocessing Tools
- Predefined Edit Templates
- Quality Assurance/Control
- Defense Cartographic Symbology
Esri Defense Mapping
Defense Mapping in ArcGIS Pro 2.0

- Data Ingest
- Data Collection/Maintenance
- Data Validation
- Data Dissemination
Enterprise Production Management

INTRODUCTION TO THE EPM SOLUTION
Enterprise Production Management
Objectives of the Enterprise Production Management (EPM) Solution

- Using workflow driven systems to:
  - Increase productivity through:
    - Preconfigured and repeatable processes
    - Simplification and automation
  - Build in quality through:
    - Process control/configuration management
    - QA/QC process enforcement
    - Accountability
  - Manage the workforce
Enterprise Production Management
Enterprise Data Management

MANAGE
- Operational
- Authoritative

PRODUCE
- Working Geodatabases

SHARE
- Data Warehouse

Connected Editors
- Information Model
- Metadata
Enterprise Production Management
Replication, Versioning, and Data Promotion

• Fully automated process
  - Creating and synchronizing replicas
  - Creating and deleting job versions
  - Posting changes to the default version
• Required to ensure only valid data is promoted
Enterprise Production Management
Minimum Deployment Pattern

Portal/Web Server
ArcGIS Server + Extensions
Database Server
File Server

Production Manager
Workflow Manager Service
Data Reviewer Service
Map Services
WMX Repository
Authoritative Content
Job Artifacts
Configuring the Environment
SETTING UP THE WORKFLOWS TO MANAGE YOUR ENTERPRISE
EPM System Tables
Extending the WMX Repository for EPM

- Additional repository tables required to
  - Manage enterprise configuration information
    - Enterprise geodatabases
    - Shared storage locations
    - Schemas
    - Replicas
    - Operation type
  - Record information gathered during workflow execution
  - Control workflow logic through token argument string replacement
- Loaded after establishing the initial WMX repository tables
  - But prior to importing the WMX configuration file
EPM Management Job Types
Using Workflows to Configure your Enterprise Environment

• For new enterprise implementations:
  - Simplify and automate your enterprise configuration
  - Establish enterprise components using best practices

• For existing enterprise users:
  - Record existing components for use with EPM
  - Control established processes in well defined workflows
Introducing Operation Types
Reducing Workflow Management Overhead

• Use a single workflow and job type for multiple use cases
  - Eliminate redundancies in your workflows
  - Simplify the job types available to users
• Management job types used to configure system information
• Operations can have unique:
  - Map templates
  - Product libraries
  - Replicated versus extracted data sources
  - Cartographic configuration options
Demonstration

DEFINING A NEW EXTRACTION OPERATION
Beyond the Desktop
SUPPORTING NON-GIS BUSINESS MANAGERS
Production Manager
A thin client for EPM

• Extend support to non-GIS and/or non-ArcGIS users
• Visualize live production status information including error reporting
• Create and manage jobs
• Mashup WMX derived layers with other operational layers
• Improve decision making regarding resources and schedule
• Decrease production cycle time and increase visibility
• Control access using ArcGIS Portal
Production Manager
Available with Esri Defense Mapping for Server

- Share Production Manager with your organization
- Create maps in ArcGIS Portal
- Share your maps using the Production Manager app
- Configure the app to support your line of business
Demonstration

PRODUCTION MANAGER APPLICATION
The Production Workflows
ENFORCING STANDARDIZATION OF COMMON PRACTICES
The Production Workflows
Introduction to the workflow environment

- Categorized by general business process
  - Vector Data Production
  - Cartographic Production
  - Field Editing
- Executable by assignment
  - Controlled by group access
- Color coded steps for ease of use
- Branching and step continuation based on return value
Stages of Production
Based on common industry practices

Setup → Production → Quality Control → Propagate Changes → Record Metrics
Demonstration

EPM VECTOR DATA PRODUCTION WORKFLOW
Integrating EPM into Web GIS
Automated updates of critical web services using EPM

• Dynamic Services
  - Updated immediately through synchronization
• Cached Services
  - Updated nightly or immediately through workflow
    - Record area of change
    - Queue job changes for cache
    - Track cache status
• Fully automated processes
Defense Product on Demand
Generating fit-for-use products directly from authoritative content

- High-end cartography over the web
  - Vector/high resolution output
  - Standardized map products
    - Symbology
    - Scale and extent
    - Map sheet boundaries
    - Page layout
- Incorporating Defense cartographic workflow:
  - Cartographic process
  - Standard Defense Products
  - Configurable
Demonstration

SUPPORTING DYNAMIC SERVICES AND APPLICATIONS
Please Take Our Survey on the **Esri Events App**!

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Select the session you attended

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Esri Defense Mapping Team
Esri User Conference 2017

• Esri Showcase, Defense and Intelligence, SDCC Exhibit Hall B1
  - Tuesday 9:00 am – 6:00 pm
  - Wednesday 9:00 am – 6:00 pm
  - Thursday 9:00 am – 1:30 pm

• Support & Demos

• Technical Workshops
  - Esri Defense Mapping: Cartographic Map Production
    - Wednesday, 8:30 am – 9:45 am, Omni – Ballroom D
  - Esri Defense Mapping for Server: Defense Product on Demand
    - Thursday, 1:30 pm – 2:45 pm, Omni – Ballroom C
Want to learn more?

Online Resources

- **Documentation**
  - Esri Defense Mapping

- **Training**
  - Introduction to Esri Defense Mapping

- **Resources**
  - ArcGIS Help: Esri Defense Mapping
  - GeoNet: Esri Community Forum
Questions