AFMC GeoBase Spatial Data Replication
Overview

- An automated data replication process was developed by Woolpert and is being used by AFMC GeoBase to replicate the installation level vector data up to Headquarters AFMC.
- FME Workbench is used in conjunction with Oracle Connection Manager, Oracle Client Applications and ArcGIS Server (ArcSDE).
Overview Cont.

• The replicated data is consumed by web mapping services that are hosted on a standard FLEX viewer.

• The automated replication process is used to enable HQ AFMC personnel to perform quarterly data call submissions, thus alleviating the responsibility for the installations to each perform the tasks manually.
Adding a Reader in FME Workbench
Adding A Writer in FME Workbench
Renaming a Dataset
Setting the Relationship Between Reader and Writer
Example of feature class fields being exposed
SDE to FILE Geodatabase Scenario
SDE to CIP—this process may change, but for now 2 step process, Delete by Base, Reload by Base
DELETE by Base----
Reload by Base – emphasize coordinate system settings in Reader and Writer.
Replication Process Diagram

AFMC HQ
Oracle / SDE Server
(Spatial Replication from Bases)

Oracle CMAN

GeoBase Prod StagingDB
(each base ref)

Oracle 12c Client
Oracle 12c Connection Mgr
Oracle TNS NAMES configured

Disk Storage

ArcGIS Server 10 SP5
Oracle TNS NAMES configured

**Oracle Connection Manager
Network proxy for Oracle
Runs as Service
Single port firewall traversal

FME Workbench Installed
Oracle Listener

Base 1
Base 2
Base 3
Base 4
Base 5
Base 6
Base 7
Base 8
Base 9

ESRI Direct Connect
HQ Firewall
Baselines
Firewalls

Analyst
Data Call Process Diagram
Compiled Data Process Diagram

AFMC HQ
Oracle / SDE Server
9 Base CIP Deploy into GCS_WGS_1984
To Geobase Database
From Stagingdb database

CIP to HQ DB
9 Bases
FME Translation Process to
GCS_WGS_1984 Coord Sys

HQ GeoBase Prod

StagingDB
(each spatial ref)

Oracle
(with SDE and FME)
ArcGIS Server 10 SP5

Disk Storage
Disk Storage
• Oracle APEX will possibly be used in the near future as a front end management dashboard tool.
Replication Status Reporting
Replication Task Management