

# aras community event

2010 International Conference

## Replication Workshop

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[www.aras.com](http://www.aras.com)



Hosted by:

**MOTOROLA**

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# Welcome



## Workshop Goals

- ❖ Understand Aras configuration options for Distribution and Replication
- ❖ Planning Guide for Replication Models

# Agenda



1. Build working definitions for:
  - Distribution / Distributed
  - Replication / Replicated
2. Aras Innovator Vault Server Tutorial
3. V9.2 Replication Functions
  - Feature list
  - How to install and configure
4. Sample Scenarios

# Replication / Distribution



## ❖ Distribution

- Separating data by class, program, or other method and then storing that data on one of several separate servers
- Separating web services processes across Servers
- Increases performance especially in large networked environments or very high concurrent user count

## ❖ Replication

- Storing the same data elements on more than one server
- Increases performance and also supports some level of disaster recovery

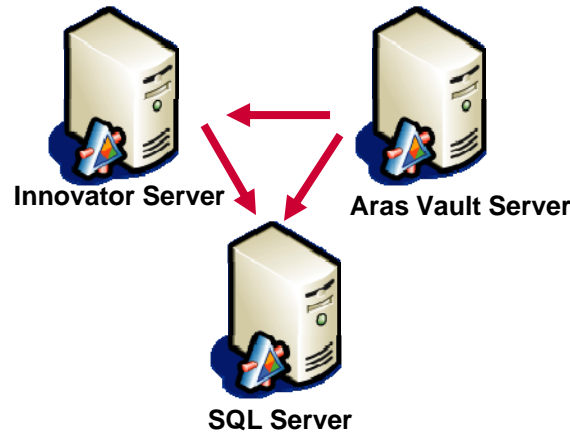
# Example Aras Configurations



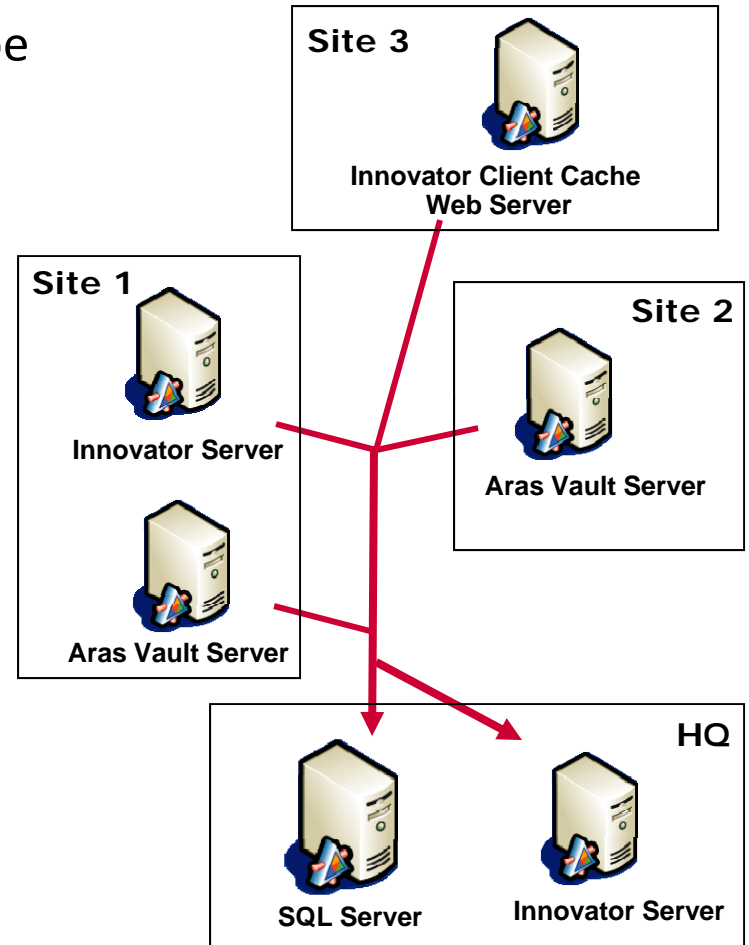
- ❑ Single Server for Initial Deployment / Small Scope  
~ 200 users
- ❑ Multiple Servers for scalability  
~ 500 users
- ❑ Distributed Servers for performance over the corporate WAN and large scale deployments.



- Single Server:**
- Innovator Server
  - Vault Server
  - SQL Server



- Distributed Process Servers:**
- Innovator Server
  - Vault Server
  - SQL Server



- Distributed Servers:**
- Innovator Server(s)
  - Vault Server(s)
  - SQL Server

# Replication



## ❖ Meta Data

Less common

- Use SQL Server replication functions

OR

- Multiple Aras Innovator Instances

## ❖ Files

- Multiple Vault servers

- Why Replicate

- Partition network load
- Fail over / redundancy

# Aras Vault Server Tutorial



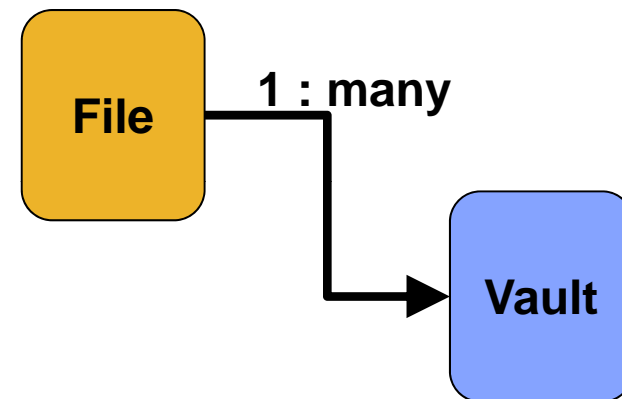
- ❖ File ID is version specific
  - Each check-in creates a new ID
  - No risk of stale files being used by mistake
- ❖ Files are stored in the operating system
  - Folder is named by the File ID
  - Allows multiple files in one Vault with the same name
  - No hashing of file name or contents
- ❖ All file Meta-data is stored in Database
  - Filename, Size, CheckSum, fileType, Permissions, etc.

# Aras Vault Server Tutorial



## ❖ Components of the Aras Vaulting System meta data

- File ItemType
- Vault ItemType
- Located RelationshipType
- User's Default Vault



## ❖ Multiple Vault Servers

- Distribution
- Replication

## ❖ Remember Aras Innovator uses a Logical Vault approach, supported by 1 or more Physical Vaults



# Aras Replication



- ❖ Distributed vaulting supported since Version 5 (in 2003)
  - ❖ Ability to do Replication also, however, need custom code
  - ❖ Prepackaged Replication capability is currently in QA, scheduled for 9.2 SP1
  - ❖ Prepackaged Replication capability will be Subscriber Only
- 
- Fits Aras open source model. No restriction on what users can develop themselves, but subscribers get the completed, packaged and supported solution.
  - Straightforward to develop your own Replication processes

# Aras Replication Models



## ❖ OnDemand

- User asks to view file that is not in his local Vault
- Administrator or Product Manager requests a File transfer between Vaults

## ❖ OnEvent

- Lifecycle promotion to In-Review or Released triggers the Replication

## ❖ OnChange

- File check-in triggers a Replication of the updated File

# Aras Replication Models



## ❖ When should the File transfer take place

- Immediately
- Scheduled batch process

## ❖ Business Rules

- By File Type
- By Vault
- By User (or group)
- and using Method logic for custom rules

# Aras Replication Approach



## ❖ Multiple Vault Servers

- Each Vault Server represented by an Item in Aras Innovator
- New API functions added to the VaultServer.aspx

*[ alternative, from my home grown solution, place a new program MyReplication.aspx in the vault server folder ]*

## ❖ Queue Table ItemType

- Records the need for a File transfer transaction
- Allows monitoring of queue, re-try on failure, & reporting

## ❖ Business Logic

- Methods for Queue processing, adding Files to Queue, etc.

## 9.2 SP1 Installation Steps



- ❖ Install a 2<sup>nd</sup> (3<sup>rd</sup>, 4<sup>th</sup>,...) Vault Server
- ❖ Assign default Vaults to each User
- ❖ Install Innovator Scheduler for batch File transfers
- ❖ Add Rules to each Vault
  - Files of Type X from this Vault should move to which Vault, When, and under What circumstances
- ❖ Add events on Lifecycles
  - Files attached to Documents that are released should be replicated to a Vault at a remote manufacturing site

*Admin documentation will be released with the SP*

# 9.2 SP1 – Configuring a Rule



The screenshot shows the 'Vault - Default' window in Internet Explorer. The main content area displays the configuration for a 'Vault' with the following fields:

- Name: Default
- Vault Uri: \${HTTP\_PREFIX\_SERVER}\${HTTP\_HOST\_SERVER}\${HTTP\_PORT\_SERVER}\${HTTP\_PAT...

Below the configuration is a 'Replication Rule' section with a toolbar and a table of rules.

| Name  | Initiator Type | Replication Mode | Filter [...] | Replication Type | Is Active                           | Label                 |
|-------|----------------|------------------|--------------|------------------|-------------------------------------|-----------------------|
| World | onChange       | Scheduled        |              | Copy             | <input checked="" type="checkbox"/> | On changed txt fil... |

At the bottom of the window, the status bar shows 'Ready', '0 Items found.', and the 'aras INNOVATOR' logo.

# 9.2 SP1 – Configuring a Rule



Replication Rule - onChange On changed txt files - Windows Internet Explorer

File Edit Views Search Actions Reports Tools Help

Initiator Type: onChange  
Filter Method:   
Replication Mode: Scheduled  
Replication Type: Copy  
Is Active:   
Replication Time: 0330  
Timeout: 0100  
Label: On changed txt files

File Types Target Vaults

Actions Pick Related Hide Search Criteria

| Name | Description | Ext. |
|------|-------------|------|
|------|-------------|------|

Ready 0 Items found. aras INNOVATOR

# Scenarios



## Examples

- ❖ Replicate all Files to all Vaults
- ❖ Replicate all Files added to one of the remote Vaults to a single master Vault to simplify backups
- ❖ Replicate CATIA CAD files from Vault A to Vault B when they are Released
- ❖ Replicate Files associated with a Product Line from the US Vault to the Chinese Partner Vault