Licensing and Deployment Best Practices

Darin Green
Product Support Specialist
Agenda

Introductions

What’s new in 2014 Licensing?

What’s new in 2014 Deployment?

Licensing Best Practices

Deployment Best Practices

Q&A
Introduction

Darin Green, Product Support Specialist

• 5 years at Synergis Engineering Design Solutions
• Background in Civil Engineering Highway and Land Development
• Primary responsibilities include Civil, Building, Licensing and Deployment
What’s New In 2014 Licensing?
What’s New In 2014 Licensing?

Autodesk NLM

- Autodesk Network License Manager 11.11

Required for all 2014 products

Bonus tip: Always first thing to check when troubleshooting network license issues
What’s New In 2014 Licensing?

Session-specific Licensing

- Required in previous releases for Citrix
- Eliminated 2 session limit ("DUP_GROUP=UH")
- No longer required for 2014
  - Still required for any session-based usage which uses same account (e.g. Vault)

Bonus Tip: Package licenses never had the 2 session limit
- Any package license for 2012/2013 products will function in Citrix without issue
What’s New In 2014 Deployment?

Helping you stay ahead.
What’s New In 2014 Deployment?

Deployment Path Length Validation

Maximum path length can be easily exceeded

2014 paths have been shortened

• `\\<deployment_path\>\img`

Path length check

• Alerts user if path is too long
What’s New In 2014 Deployment?

Combined Deployments

Ability to combine 32 and 64-bit deployments

Easily combined using new “CombineDeploy.exe” tool

Auto-detects architecture during installation
What’s New In 2014 Deployment?

Include Additional Software

Ability to include 3rd party products

- Add-ins from App Store
- Language Packs
- MSI’s
- EXE’s

Supports adding command-line parameters
What’s New In 2014 Deployment?

Scripted Uninstall File

All deployments include batch file for automatic removal

Can be used to remove all or part of a deployment

Unique for each deployment created

Located in `<deployment path>\SMS_SCCM scripts folder`

```
:::=== AutoCAD 2014 Language Pack - English
:::call :funcuninstall {778F207-D001-D409-1102-D060B0CE68BA}, "AutoCAD 2014 Language Pack - English"
:::=== AutoCAD 2014 - English
:::call :funcuninstall {778F207-D001-D409-2102-D060B0CE68BA}, "AutoCAD 2014 - English"
:::=== Autodesk 360
:::call :funcuninstall {52628CAD-F49D-478A-9FFE-29C2E85F000B}, "Autodesk 360"
:::=== Sketchup Import for AutoCAD 2014
:::call :funcuninstall {644E989-F73A-49A4-AC6L-A95B9BDE3669}, "Sketchup Import for AutoCAD 2014"
```
Licensing Best Practices

Helping you stay ahead.
Licensing Best Practices

Preventing “The Letter”

Over activation is one of the most common issues
  • It can be prevented!

License Transfer Utility
  • Moves a license from one machine to another
  • Prevents extra activation requests
  • Should always be used unless old machine is unavailable
Licensing Best Practices

Purpose of ASR Files

- Control files for standalone licensing
- Managed by the licensing and activation process
- Located in local file system
- Must be read/write accessible
Licensing Best Practices

Purpose of PIT File

- Product Information Table for all installed products
- Contains PLIST increments for 2010 and up
- Holds serial number, product key, license type details
- Updates itself with each install/uninstall
- If deleted, will break all installed products
## Licensing Best Practices

### Purpose of PIT File, cont.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProductID</td>
<td>ACD</td>
</tr>
<tr>
<td>ProductName</td>
<td>Autodesk AutoCAD 2014</td>
</tr>
<tr>
<td>Standalone Feature Name</td>
<td>ACD_F_S:2013.0324</td>
</tr>
<tr>
<td>Network Feature Name</td>
<td>85063ACD_2014_0F:1.0</td>
</tr>
<tr>
<td>Standalone Cascading sequence</td>
<td>85063ACD_2014_0F:1.0; 88088ACD_MCAD_2014_0F:1.0; 89185MACH_PS_2014_0F:1.0; 89198SPRIM_2014_0F:1.0; 89110PLM3D_2014_0F:1.0; 88120DSSTD_2014_0F:1.0; 89132PDSS_2014_0F:1.0; 89129PDSS_2014_0F:1.0; 85072BDSS_2014_0F:1.0; 88124DSS_2014_0F:1.0; 89160PLDSS_2014_0F:1.0; 80819DSPRIM_2014_0F:1.0; 89121DPS_2014_0F:1.0; 89128DPSRAM_2014_0F:1.0; 88067REVTS_2014_0F:1.0; 88070REV SU_2014_0F:1.0; 89069REVSP_2014_0F:1.0; 88071BDSPRAM_2014_0F:1.0; 89123DPS_2014_0F:1.0; 89148DPSRAM_2014_0F:1.0; 89121DSADV_2014_0F:1.0; 88113PDSU_2014_0F:1.0; 89130DSADV_2014_0F:1.0; 88072BDADV_2014_0F:1.0; 89128DSDU_2014_0F:1.0; 89107PDSADV_2014_0F:1.0; 89164DES_ACA_2014_0F:1.0; 88113ESME_2014_0F:1.0; 89112EMS_2014_0F:1.0</td>
</tr>
<tr>
<td>Network Cascading sequence</td>
<td></td>
</tr>
<tr>
<td>User had attempted to activate a Standalone License</td>
<td>0</td>
</tr>
<tr>
<td>User had attempted to activate a Network License</td>
<td>0</td>
</tr>
<tr>
<td>Eula country selected during product install</td>
<td>US</td>
</tr>
</tbody>
</table>
## Licensing Best Practices

### Purpose of PIT File, cont.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product License Type</strong></td>
<td>STANDALONE:NETWORK</td>
</tr>
<tr>
<td><strong>Valid Installable Product Keys</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SubFeature Feature List</strong></td>
<td></td>
</tr>
<tr>
<td>Standalone Selected Product Key</td>
<td>001F1</td>
</tr>
<tr>
<td>Standalone selected version(Major,Sub,Minor,ReleaseType)</td>
<td>2014.0.0.0</td>
</tr>
<tr>
<td>Network selected Product Key</td>
<td>001F1</td>
</tr>
<tr>
<td>Network selected version(Major,Sub,Minor,ReleaseType)</td>
<td>2014.0.0.0</td>
</tr>
<tr>
<td>Did user enter a valid ProductKey during install or activation for Network License Type</td>
<td>1</td>
</tr>
<tr>
<td>Did user enter a valid ProductKey during install or activation for Standalone or MSA License Type</td>
<td>1</td>
</tr>
<tr>
<td>Get Network PLIST and FeatureLicense from Default ProductKey</td>
<td>1</td>
</tr>
<tr>
<td>ProductKey entered during install</td>
<td>001F1</td>
</tr>
<tr>
<td>Is enterprise installation?</td>
<td></td>
</tr>
</tbody>
</table>
Licensing Best Practices
Changing License Type

One of the most asked about questions

Only subset of products officially support it
- Inventor 2012 and up
- Maya
- 3ds Max

For most AutoCAD and AutoCAD-based products, there is a way…
Licensing Best Practices
Changing License Type, cont.

The “Type” value

Located in the Windows Registry

Has common value system

- 1 = network
- 2 = standalone
- 3 = multi-seat standalone (MSSA)

Completely unsupported
Licensing Best Practices

The “Secret” License Server Model

Three common models today...

- Single
- Distributed
- Redundant
Single License Server Model

• Advantages
  • Because all license management takes place on one server, you have just one point of administration and one point of failure
  • Of the three license server models, this configuration requires the least amount of maintenance

• Disadvantages
  • If this single server license fails, the Autodesk product(s) cannot run until the server is back online
Distributed License Server Model

**Advantages**
- Servers can be distributed across a wide area network (WAN) and do not need to exist on the same subnet
- If one server in the distributed server pool fails, the licenses on the remaining servers are still available
- If you need to replace a server in the distributed server pool, you do not need to rebuild the entire pool

**Disadvantages**
- If a server in the distributed server pool fails, the licenses on that server are unavailable
- Can require more time for setup and maintenance than other models
Licensing Best Practices

The “Secret” License Server Model, cont.

**Redundant License Server Model**

- **Advantages**
  - If one of the three servers fails, all licenses that are managed in the server pool are still available.

- **Disadvantages**
  - If more than one server fails, no licenses are available.
  - All three servers must reside on the same subnet and have reliable network communications. The redundant server pool does not provide network fault tolerance.
  - If one of the three servers is replaced, the complete redundant server pool must be rebuilt.
Distributed License Server Model

- Permitted per the License and Services Agreement (LSA)
- Allows a second server to be in “standby” mode
- Production and hot backup cannot run simultaneously
- Hot backup typically monitors production
- Clients failover using ADSKFLEX_LICENSE_FILE variable
Licensing Best Practices

Proper License File Maintenance

Add comments to licenses
- Use license parser to help
- Makes reading files easier

License order
- Cheaper to most expensive
- Use cascade order for like products

Like licenses must have same issue date
- Different date causes newer date to supersede old
- Reduces available license count
### Licensing Best Practices

#### Proper License File Maintenance

#### Increments Matched

<table>
<thead>
<tr>
<th>Seats</th>
<th>Feature</th>
<th>Feature Code</th>
<th>Serial Number</th>
<th>Issue Date</th>
<th>Expiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>AutoCAD 2014</td>
<td>8606SACD_2014_0F</td>
<td></td>
<td>26-Apr-2013</td>
<td>permanent</td>
</tr>
</tbody>
</table>

#### Package Increments Matched

<table>
<thead>
<tr>
<th>Seats</th>
<th>Feature Code</th>
<th>Serial Number</th>
<th>Issue Date</th>
<th>Expiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Subscription Package: AutoCAD</td>
<td></td>
<td>26-Apr-2013</td>
<td>permanent</td>
</tr>
<tr>
<td>1</td>
<td>AutoCAD 2014</td>
<td>8606SACD_2014_0F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>AutoCAD 2013</td>
<td>85871ACD_2013_0F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>AutoCAD 2012</td>
<td>85730ACD_2012_0F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>AutoCAD 2011</td>
<td>85536ACD_2011_0F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**FRONTLINELM**: license server UP (MASTER) v11.11

Vendor daemon status (on FRONTLINELM):

- adskflex: UP v11.11

Feature usage info:

- Users of 64300ACD_F: (Total of 5 licenses issued; Total of 0 licenses in use)
- Users of 8606SACD_2014_0F: (Total of 10 licenses issued; Total of 0 licenses in use)
- Users of 85871ACD_2013_0F: (Total of 5 licenses issued; Total of 0 licenses in use)
- Users of 85730ACD_2012_0F: (Total of 5 licenses issued; Total of 0 licenses in use)
- Users of 85536ACD_2011_0F: (Total of 5 licenses issued; Total of 0 licenses in use)
Licensing Best Practices
Proper License File Maintenance, cont.

FRONTLINELM: license server UP (MASTER) v11.11
Vendor daemon status (on FRONTLINELM):
   adskflex: UP v11.11
Feature usage info:
   Users of 64300ACD_F: (Total of 5 licenses issued; Total of 0 licenses in use)
   Users of 86063ACD_2014_OF: (Total of 5 licenses issued; Total of 0 licenses in use)
   Users of 85871ACD_2013_OF: (Total of 5 licenses issued; Total of 0 licenses in use)
   Users of 85730ACD_2012_OF: (Total of 5 licenses issued; Total of 0 licenses in use)
   Users of 85536ACD_2011_OF: (Total of 5 licenses issued; Total of 0 licenses in use)
Licensing Best Practices

Basic Options File Settings

Reduce or disable borrowing
• 6 months by default
• Any borrowed license reduces the pool regardless of use

Reduce timeout value
• Frees up licenses not being actively used
• Must be higher than the autosave value
Max borrow period reduced to one week:

```
[Notepad]
# Disable group case sensitivity
GROUPCASESENSITIVE ON

# Set max borrow period for AutoCAD 2014 to one week
MAX_BORROW_HOURS 56063/AutoCAD_2014.Op 120

# Set timeout for all products to 30 minutes
TIMEOUTALL 1800
```
Borrowing completely disabled:

```
[adsiflex.opt - Notepad]

# Disable group case sensitivity
GROUPCASEINSENSITIVE ON

# Eliminate borrowing for AutoCAD 2014
EXCLUDE BORROW 85063ACD_2014_OF INTERNET *.*.*.*

# Set timeout for all products to 30 minutes
TIMEOUTALL 1800
```
Can the license server be pinged?

Check firewall connectivity:
- In IE, go to http://servername:27000 and http://servername:2080
- If you get “Page cannot be displayed”, you have a firewall issue

Check or set ADSKFLEX_LICENSE_FILE variable

Create FLEXLM_TIMEOUT variable

Delete CascadeInfo.cas
Deployment Best Practices

Helping you stay ahead.
By default, Suite deployments are HUGE

- Plant Design Suite Ultimate is 37GB!!
- Not all software typically needed by all users

Two approaches:

- Product specific deployments (e.g. AutoCAD only)
- Master deployment with product specific sub-deployments
Deployment Best Practices

Product Specific Deployment

Advantages
- Only includes products needed
- Smaller individual deployment sizes
- Greatly reduced installation time

Disadvantages
- Additional software cannot be added later
  - Must start from scratch
- Disk space can be wasted if multiple deployments contain like product
Deployment Best Practices

Master Deployment

**Advantages**

- Master deployment with all components of Suite
- Sub-deployments with one or more products
- Like products share same installer binaries
- Deployment size is only ever as big as master deployment
- Never have to start from scratch

**Disadvantages**

- More disk space might be consumed by using a master deployment
Deployment Best Practices

Common Mistakes

Moving a deployment and not updating paths
- Must update deployment INI files and shortcuts
- Can be done through Modify Deployment (recommended) or manually

Proper deployment share access for users
- Read/Write privileges are required

Not clearing “Only include products...” checkbox
- Failure to uncheck will prevent future modifications
Deployment Best Practices
Component-based Installs

Individual components can be rolled out via script
- Can also perform staged rollout
- Prerequisites first, main components later

Reduced likelihood of install failures
- Most common install problems come from prerequisites
- Easier to troubleshoot

Custom script provided along with each deployment
- <deployment path>\SMS_SCCM scripts/deployment name_SCCM.txt
Deployment Best Practices

Automating Product Uninstalls

2014 deployments include uninstall script
• Unique per deployment

Script examples available for previous releases
• Best method for automated uninstall on multiple systems
• Easily customized to include additional tasks
• Easier to troubleshoot

ADS and PrDS include uninstall tools
• Intended to be ran manually on each system
Synergis Engineering Design Solutions

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Product Support Specialist