SAM Monthly Best Practices Webinars

Session 23: Management of Streamed Applications

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Previous sessions (see in [SAM Best Practice Hub](#))

- [July 21 session : FNMS 2021R1 content and Oracle Optimization](#)

- [September 21 session : RedHat, Microsoft Windows and SQL server optimization](#)

- [October 21 Session : Everything about Oracle](#)

- [November 21 session : Metering in FlexNet Manager: collection, management and optimization](#)

- [February 22 session : Java and Windows Server Optimization report](#)

- [March 22 session: Managing unrecognized applications](#)

- [April 22 session: Managing Hybrid Applications in SaaS Manager and Flexera One ITAM](#)

- [May 22 session: Customization and creating automations in Flexera One ITAM and FlexNet Manager Cloud](#)

- [June 22 session: Integrating ITAM & FlexNet Manager on Premise with a CMDB](#)

- [July 22 session: Management of Dockers and Kubernetes containers in Flexera One ITAM / FlexNet Manager](#)

- [August 22 session: Reporting in ITAM: Web, Cognos, Dashboards customization, next steps…](#)

- [September 22 session: Managing SAM Operations in project and run phase in ITAM / FlexNet Manager](#)

- [October 22 session: ITAM & SAM - Vision and next steps](#)

- [November 22 session: Flexera One ITAM / FlexNet Manager 2022R2 features deep dive](#)

- [December 22 session: Managing IBM PVU and VPC Licensing](#)

- [January 23 session: A full optimal license position for Windows Server and CIS in one hour!](#)

- [February 23 session: Using allocations and exemptions for an optimal license position](#)

- [March 23 session: the SAM Optimization Hub](#)

- [April 23 session: the SAM Operations Hub](#)

- [May 23 session: Keep Java under Control with Flexera ITAM!](#)

- [June 23 session: Flexera Business Adapter Studio for integrations and automations!](#)

- [July 23 session: FlexNet Manager 2023R1 and the new Applications Publishers screen](#)

Agenda

1. Last session's pointers and answers to questions

2. News
   1. Updates in the Best Practice Hub
   2. ITAM 2023R1.2.

3. Management of streamed Applications

Last Session: FlexNet Manager 2023R1 and the New Applications Publishers screen (2023R1.1)

- Useful pointers
  - Recording and PowerPoint: here

- Answers to questions
  - No question for this session!

News

- ITAM 2023R1.2
  - July 19th.
    - Bug fixes only
- The "Best practice Hub"
  - Gives many pointers to existing best practice and visibility on the 3 coming Hubs.
  - Information on the coming SAM Publisher Hub
- Please check if you received the
  - Flexera July ITAM Newsletter?

Management of streamed applications

Agenda

- Concept of streamed applications
- Managing the license consumption for the streaming technologies
  - Importing Microsoft RDS license servers' data
  - Importing Citrix Management Console data
- Managing the license consumption for the streamed applications
  - Integrating inventory (multiple technologies, multiple connectors)
  - Analyzing the "remote usage" with the streamed application usage
  - Making sur licenses take into account all consumptions

Introduction: streamed applications technologies

- To simplify deployment of applications
- And make governance more centralized (who can use what?)
- Technologies have emerged in the last 2 decades to stream applications
- Three approaches
    - Persistent VDIs: the use from a "thin client" can access a desktop (this is like a computer, data is pertained)
    - Non-persistent VDIs: each new session kicks off a new virtual desktop
    - Streamed applications: by clicking on an icon, and application is run on a streaming server and rendered on the user's devices (in a web browser).
- The big players
    - Citrix (XenApp, XenDesktop)
        - On premise, cloud
    - VMWare (Horizon)
    - Microsoft (RDS servers, App-V)

Example of Citrix

1. XenApp
   1. Based on AD Groups
   2. "Packages" are assigned to users
   3. Packages are imported as "remote applications"

2. Xen Desktop
   1. Access through VDI groups defined in AD
   2. VDI templates exist
      1. That are persistent
      2. Or not persistent

Licensing implications of application streaming

- Using an application requires license entitlements

- Having the right to use an application (just like having an application installed on a physical computer) requires license entitlements

- Depending on license metric multiple situation may occur
  - Per user: this is simple, users with applications assignments need to be licensed
  - Per device:
    - "All accessing devices should be licensed"
    - This is a trap that Microsoft is using with Office Professional (to force customers migrate to M365 that is per user (and a subscription))

- We need a way to track remote usage and reflect it accordingly in the license consumption

# Flexera design on Application streaming

- Persistent VDIs
    - Are managed as a virtual machines and will consume as such.

- Non persistent VDIs:
    - Templates are inventoried, along with their applications.
    - Users to template access rights are captured in AD.
    - Templates' applications are duplicated to ALL devices of the assigned users.
    - Access mode:
        - Citrix Virtual Desktops.
        - Horizon Virtual Desktops.

- Streamed Applications
    - User applications assignments are collected (AD Groups, Microsoft API).
    - Streamed applications package are duplicated as (non raw) installer evidences to ALL devices of the assigned users.
    - An application package to ARL application(s) mapping may be necessary.
    - Access mode:
        - Citrix Virtual Apps.
        - VMware View (Horizon).
        - Office 365.
        - App-V (**exclusively collected from SCCM**)

Tracking the licensing requirements for these technologies

- Tracking Microsoft RDS CAL or Citrix license consumption is not trivial as these are not "Visible for installations" consumptions
  - Assigned RDS CALs for Microsoft
  - Concurrent access for Citrix
- However, querying the "License server" or "console" bring information that can be reflected (but not calculated) in ITAM / FlexNet Manager
- Two integrations are published as KB articles
  - RDS CALs integration and Optimization
  - Citrix Console integration
- Same approach
  - Read the data from the licensing servers with PowerShell script
  - Collect and store the data in a staging table to rework it (this SQL step must be re adapted for RDS as optimization approaches defer from customer to customer)
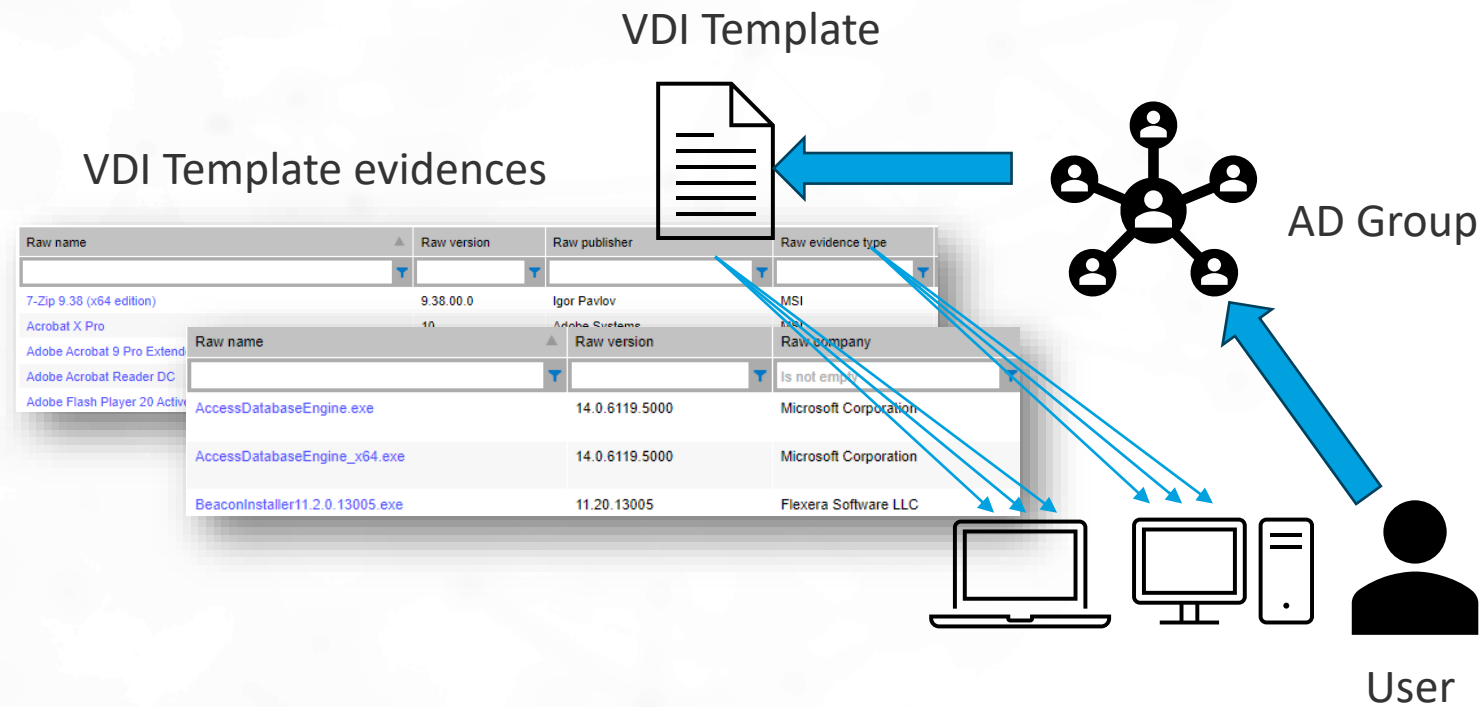
Integration Flow

- Described in the [FNMS Inventory Connector Reference](#)

- Varies on versions: >7.6 diagram
  - One Citrix Agent per site
  - A staging DB is fed by the Citrix Agent
  - Optional collection of usage
  - Data is imported into FNMS tables
    - ImportedRemoteApplicationAccess
    - ImportedRemoteUserToApplicationAccess
    - ImpportedVDIs (incl groups, templates information)

- In addition:
  - VDI templates must be inventoried by the FNMS agent
  - Persistent VDIs must be inventoried too
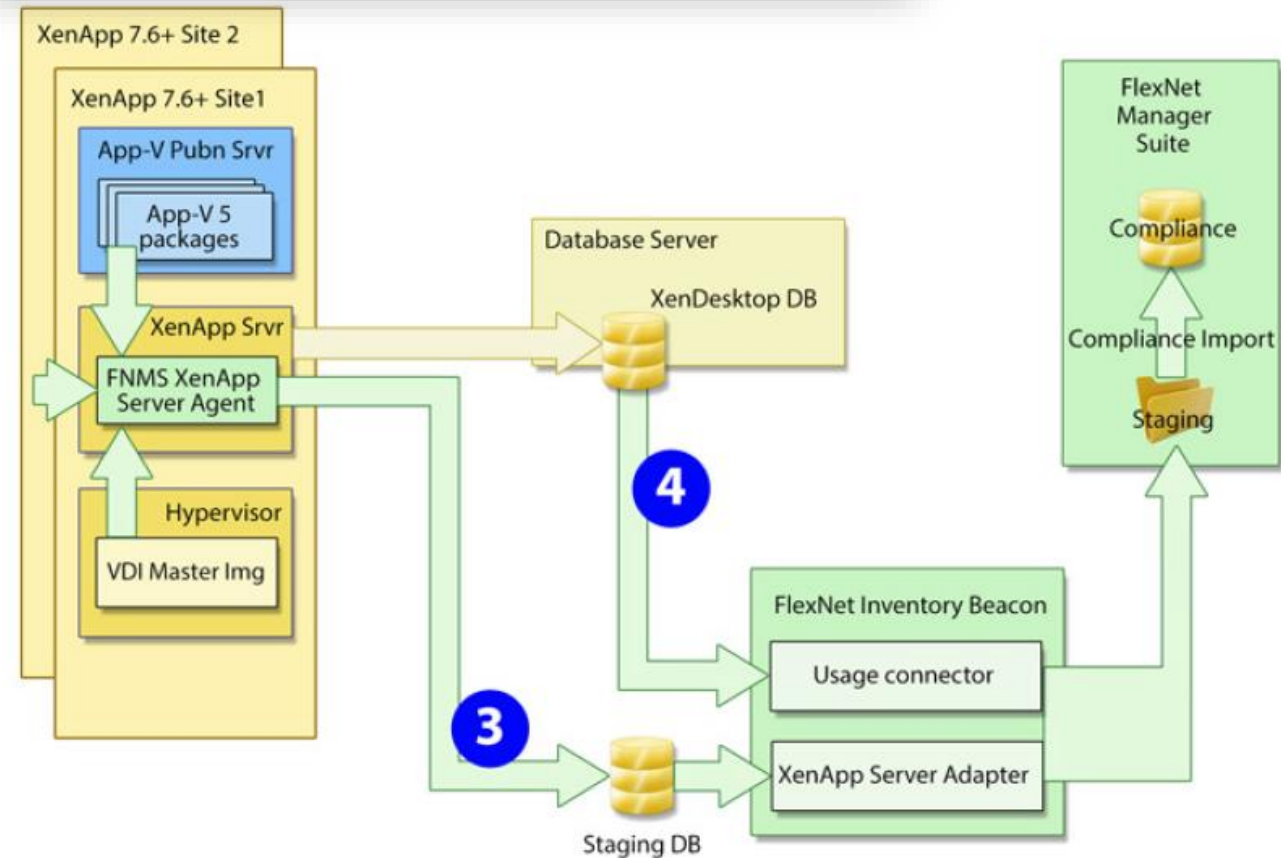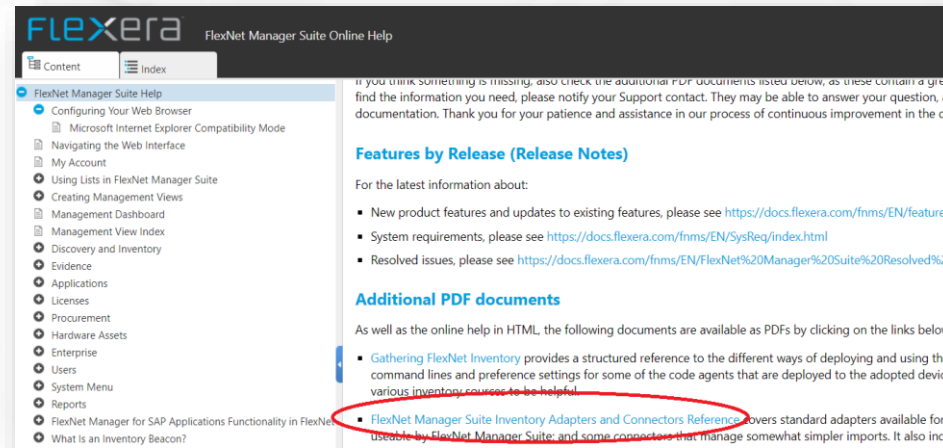
How the data is managed in ITAM (Demo)

- XenApp
  - XenApp File and installer evidences are created
  - These evidences are linked to the users' main machine(s) or remote machine, based on users' applications assignments of remote applications
- VDI Groups, VDIs, VDI templates are imported
  - Persistent VDIs
    - Are created as Virtual Machines
    - Can consume licenses
  - Non persistent VDIs
    - Are not even created in FNMS (not in all inventory)
    - Only VDI Templates are created as a special computer type
    - Cannot consume licenses
  - Replication of non persistent VDI templates into Users "Remote" evidences
    - The replication is based on user VDI groups allowing access to VDI templates
    - Each user's applications is the union of the templates' applications used by non-persistent VDIs he can access to

Non-persistent VDIs evidence duplications

Streamed Application

Application Package

Applications Package Name

Basic Desktop v3

AD Group

Basic Desktop v3

User

Package remapping

Office Professional 2019
WinZip 7
Acrobat Reader 2023

ARL
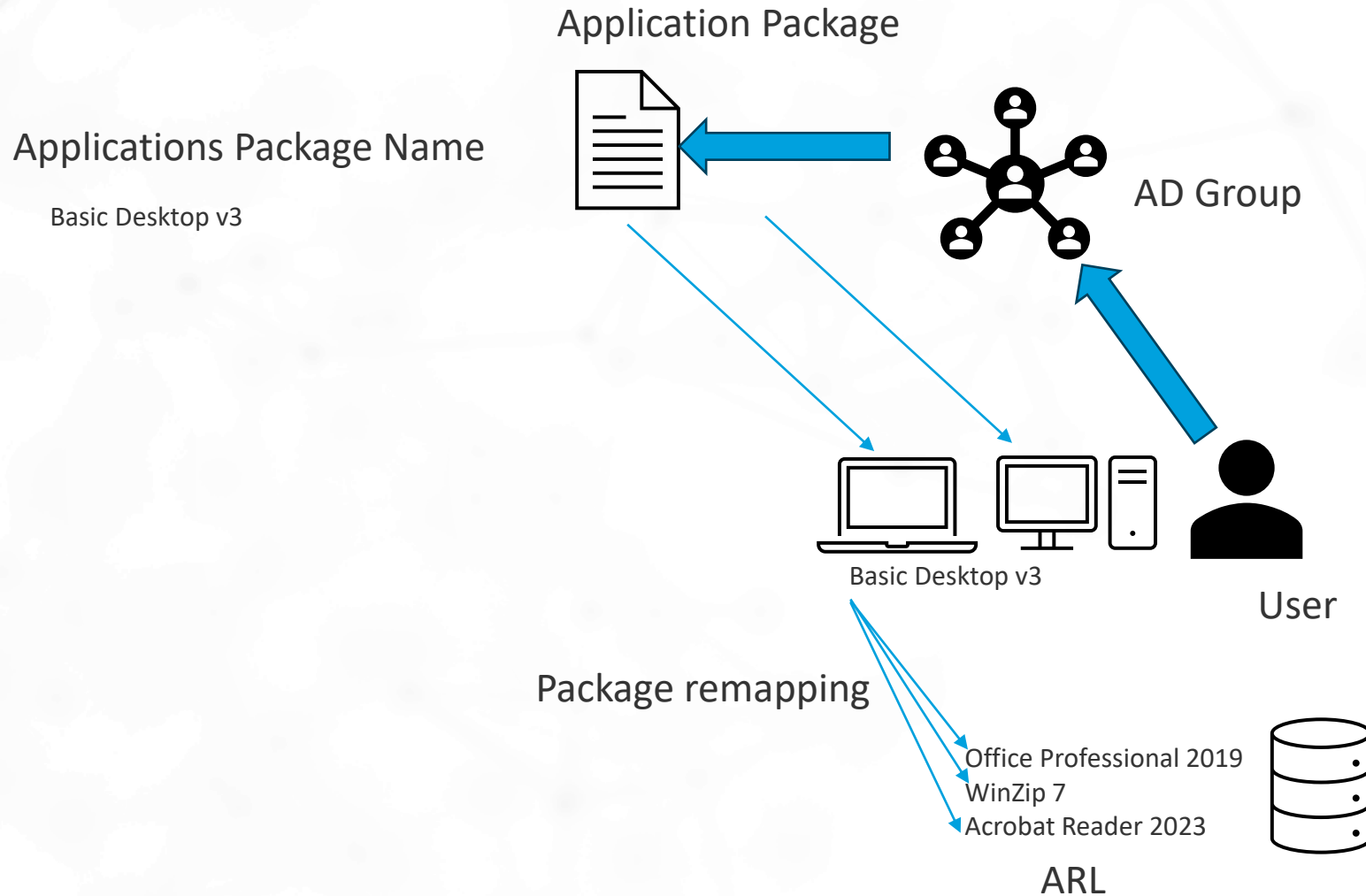
What happens in ITAM

1. VDI templates and links to user can be accessed
    1. In the Discovery & Inventory/Virtual Desktop Templates screen
    2. Shows the links (combinations) between users, templates, and eventually accessing device

2. Non-persistent VDI templates are available in the "All Inventory" screen

3. Persistent VDIs just appear as normal VMs

4. Installations are created as "XenApp or XenDesktop" access mode

On the licensing side

1. Applications access remotely or locally must be licensed

2. FNMS creates remote installations

3. But Licenses must be set up to include remote usage

   1. Access granted... consumed
   2. Consume one entitlement for user
   3. Check the online help!

License consumption rules

Consumption per device, user or access

These rules set whether license entitlements will be consumed because of installations, allocation, access or usage technologies.

Installations always consume license entitlements.

This license does not have contracts with license consumption rules

☐ Allocations consume license entitlements

☑ Access granted to users, or usage, consumes license entitlements
   ◉ Consume one entitlement for each user
   ○ Consume one entitlement per device owned by each user

   Consume entitlements based on: Access ▼

☐ Clients accessing servers that consume this license will be exempted from CALs (No CALs required)

Access granted to users, or usage, consumes license entitlements

- For most licenses, the default setting (the check box is clear) is correct.
- For licenses covering virtualized applications, set this check box to expose additional controls. (Here virtualized applications includes those streamed from an application server, or deployed from such a server for local installation, or delivered through a virtual desktop solution.) In short, select this check box to allow license consumption for App-V, Citrix Virtual Apps, and Citrix Virtual Desktops applications (the "whether or not" setting for consumption for virtualized applications).

  💡 **Tip:** The choice between access or usage is made by the last of the newly-exposed controls, described below.

Consume one entitlement for each user or **Consume one entitlement per device owned by each user**

This group of radio buttons determines, once consumption is triggered, exactly what quantity is consumed (the "what" of consumption).

- One entitlement per user: some licenses (more typically for application virtualization) require a device-based calculations, but make the concession that all the devices 'owned' by a single user may be grouped together and counted as one. This sounds rather like user-based licensing, but meets the publishers' requirements for device-based licenses that can allow such grouping of devices.

  💡 **Tip:** Some licenses (for example, in VDI environments) allow a right of "roaming use", where a single user may access the application from any number of end points (devices). For this right, select **Consume one entitlement for each user**.

- One entitlement per device: other licenses require that every device is separately licensed, and further require that if a user can access the virtualized application on any device, then they are deemed to have access through each of their devices, all of which must be licensed. In this case, a device is 'owned' by a user when the user is either:
  - the **Assigned** user for a device
  - the **Calculated** user for a device (both of these are visible in the **Ownership** tab of the inventory device properties).

  Restrictions: These radio buttons are only visible for the license types listed above the table.

Special case on Streamed "per device" applications

Known challenges

Virtual Desktop Templates

1. 10 groups x 100 templates x 50,000 users = 50 millions combinations!

2. Complexity of data (n-n links) is high, and analysis is really challenging.

3. XenApp file evidences get lost in the mass of « not for recognition file evidences » but installer evidences can be used

4. But packaging leads to unrecognized evidences (150 max)

5. Some customers seem to be in a "mixed" mode
   1. Persistent VDIs
   2. Users based on their group will access any of the VDIs
   3. Need a non-persistent-like evidence duplication
   4. Can be customized (on premise)

Tuning XenApp Recognition

Thank you!

About Flexera

Flexera delivers SaaS-based IT management solutions that enable enterprises to accelerate digital transformation and multiply the value of their technology investments. We help organizations *inform their IT* with definitive visibility into complex hybrid IT ecosystems, providing unparalleled IT insights that allow them to seize technology opportunities. And we help them *transform their IT* with tools that deliver actionable intelligence across an ever-increasing range of dimensions to effectively manage, govern and optimize their hybrid IT estate.

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