Novell Open Enterprise Server 2015 - Roadmap Webinar

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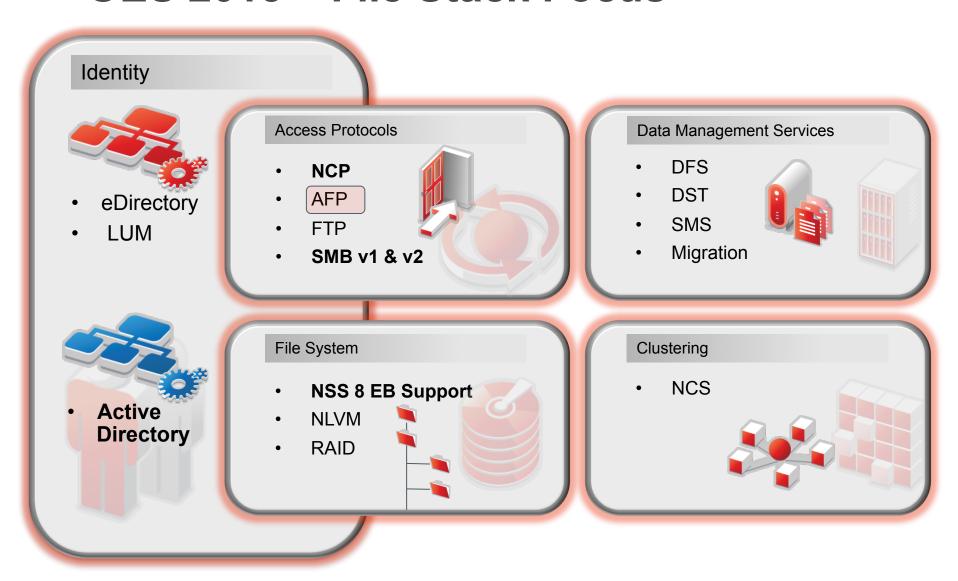
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Agenda

- OES 2015 30 minutes
- Q & A 15 mins

OES 2015 – File Stack Focus



Novell Open Enterprise Server 2015 - 'Altair'

- Key Features
 - NSS Active Directory Integration
 - SMBv2 Support
 - Large Storage Support
- Other Improvements
 - DFS Junctions Reporting
 - iPrint Installing printers using any Browser (IE, Firefox, Chrome & Safari)
 - iPrint Direct Print Accounting
 - Performance and Reliability focus
 - Numerous bug fixes

Before going into the details ...

- Why OES 2015 and not OES 12?
 - OES Value propositions to drive OES Roadmap
 - Platform will be an enabler not the driver for release
 - Need flexibility to focus most OES releases on value addition in the OES Stack.
- Why is OES 2015 is a big deal?
 - Most significant update to OES since OES 1.0
 - Code Add/Modify/Delete 6.5 million loc,
 - Added 8k new test cases to existing 10k test cases
 - Changes from top to bottom of the file stack, but keeping backward compatibility in focus
 - Goal: Meet or better the quality standards set with OES11 SP1/SP2
- Needed to develop on a stable base and avoid too many moving parts.

Before going into the details ...

- Why on SLES11 base and not SLES12?
 - New SLES releases typically are very disruptive on OES.
 - Adapting to latest SLES SP / SLES12 takes 6 to 9 months, even without adding new OES capabilities
 - Changes in OES 2015, needed a stable base SLES11 gives us that
 - Avoid too many moving parts
 - Will be adapted to SLES12 base in due course, after OES 2015 SP1.

Overview

Customer Ecosystem

Backup

Antivirus

HSM

Audit

AD ecosystem

Product Ecosystem

Filr

NFMS

eDir

iPrint

OES 2015

AD

8EB

- Mergers /Acquisitions
- Identity Store consolidations
- Larger space requirements (TB, PB, EB)
- Media files
- Industry standards
- SMBv2 Competitive parity

SLES11 SP3

Architectural preparation

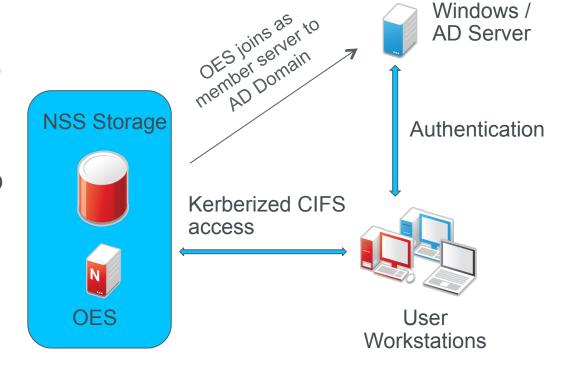
For Deployment and 3rd Party readiness



NSS access for AD users

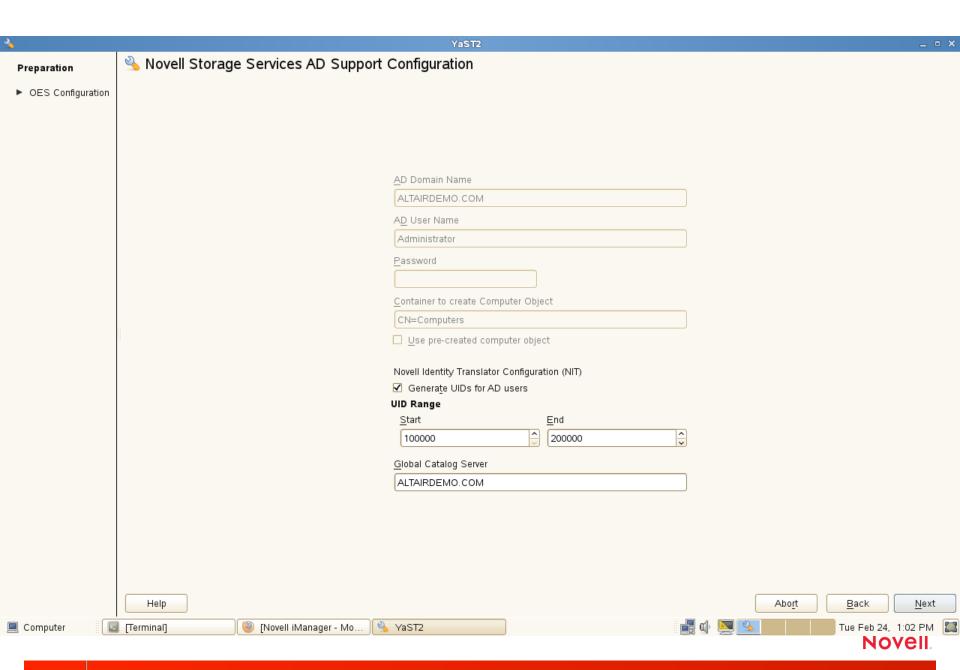
Allows corporations with mandate to consolidate to one directory (AD) or Integrate MS shops acquired to continue to leverage NSS file system investment and keep NSS features / benefits.

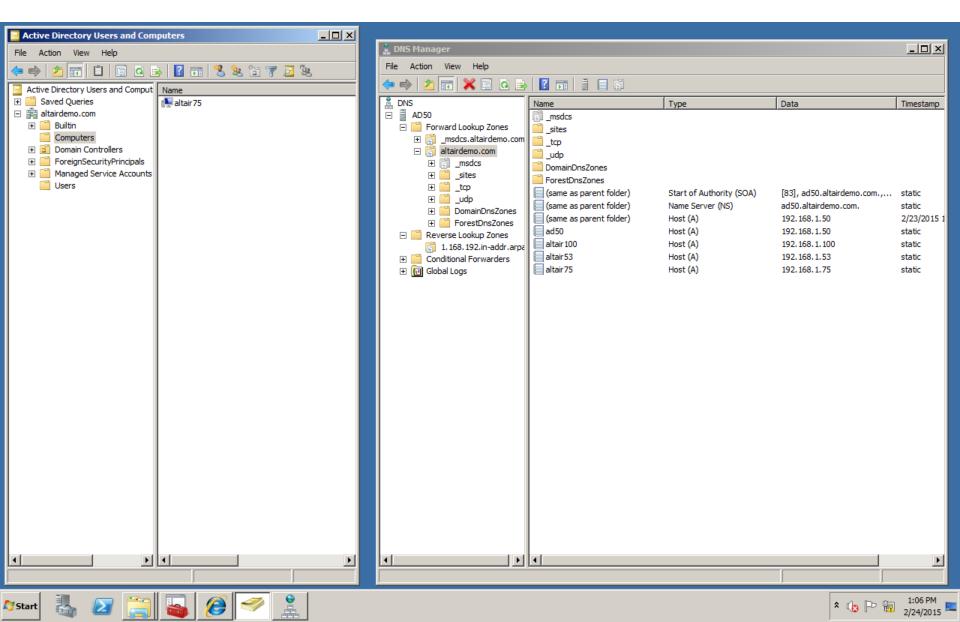
- Retain IRF's / Visibility
- User maps via CIFS to NSS, and leverages AD group policies for client drive mappings
- Works for eDirectory and AD environment
- Explorer plugin to manage rights on NSS volumes

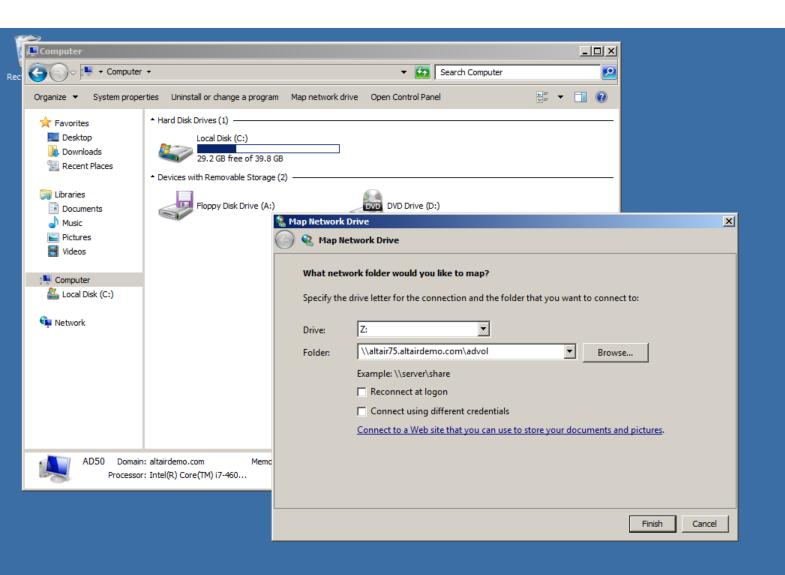


NSS Active Directory Integration

- Additional capability
- Native AD User integration
- Kerberos Authentication, Single Sign on
- Retains Novell Right Model, IRF's, Visibility, etc.
- Management
 - Explorer Shell Extension to manage Trustees, File/Folder permissions and quotas
 - User Management using standard AD Tools
 - Storage Management using traditional Novell Tools
- AD is supported on both old and new volumes





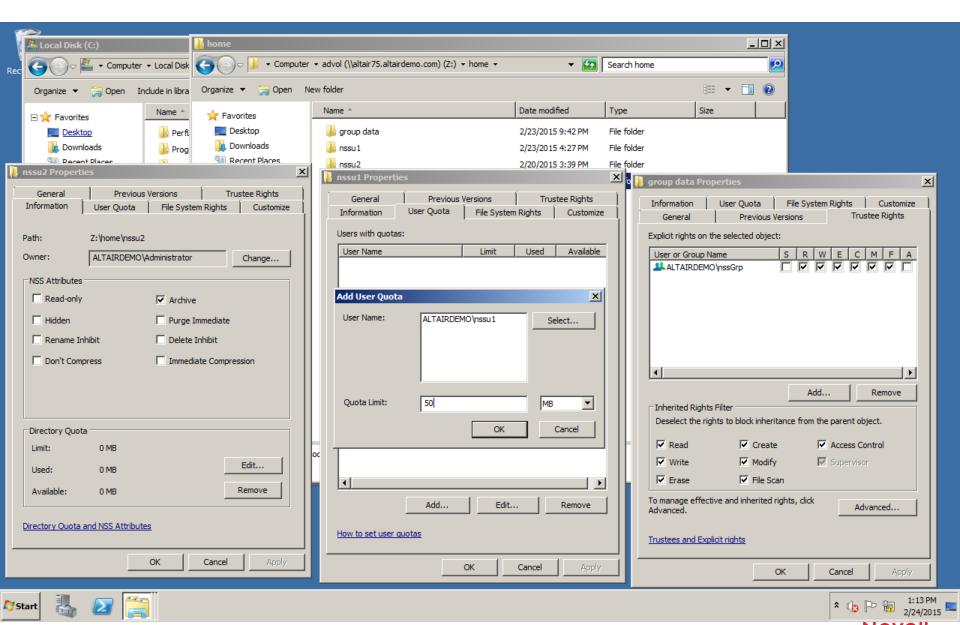






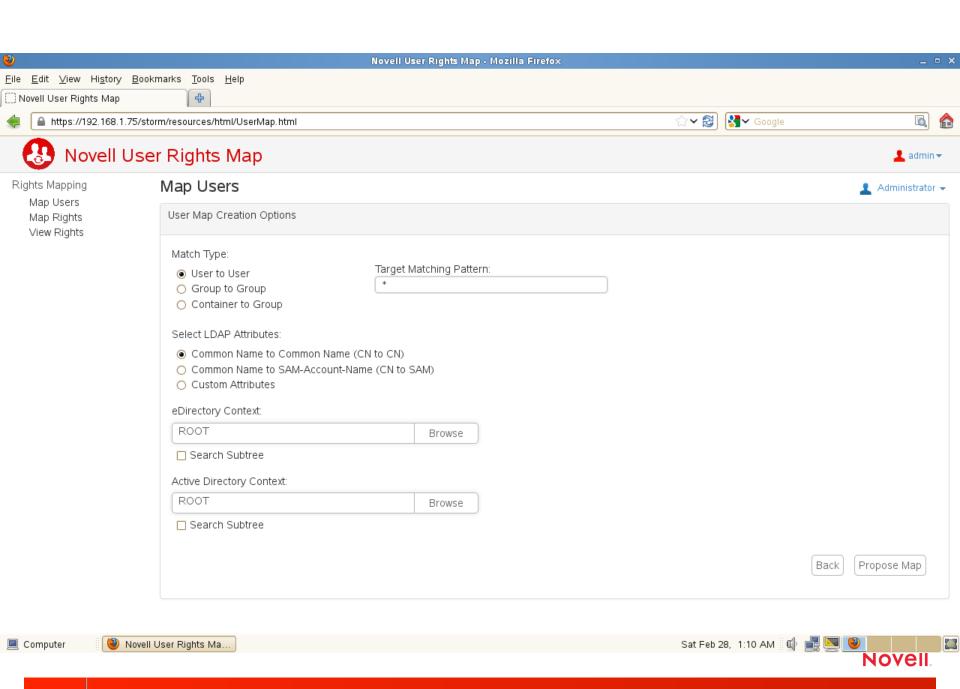


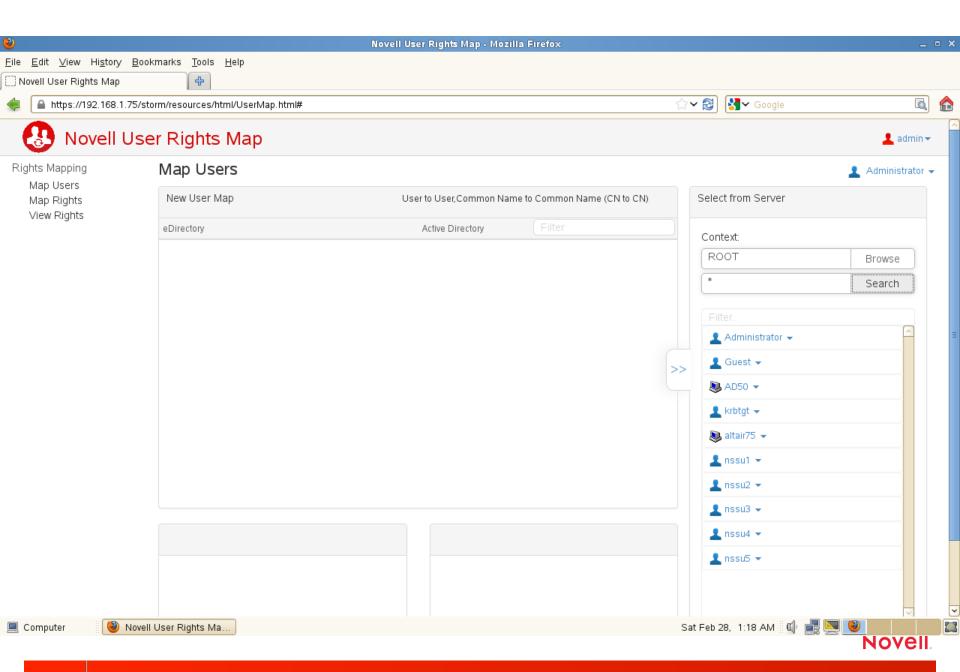




NSS Active Directory Integration

- Supports eDir & AD Users at the same time
- ACL Migration
- Enabled Services / Features
 - CIFS, DFS, DST & NCS
 - Later: FTP, Salvage, Filr, NFMS
- Minimal impact on 3rd Party Software
 - AntiVirus, Backup & HSM
 - Auditing
 - Working pro-actively to ensure partners are on board and support Altair





Is eDirectory going away?

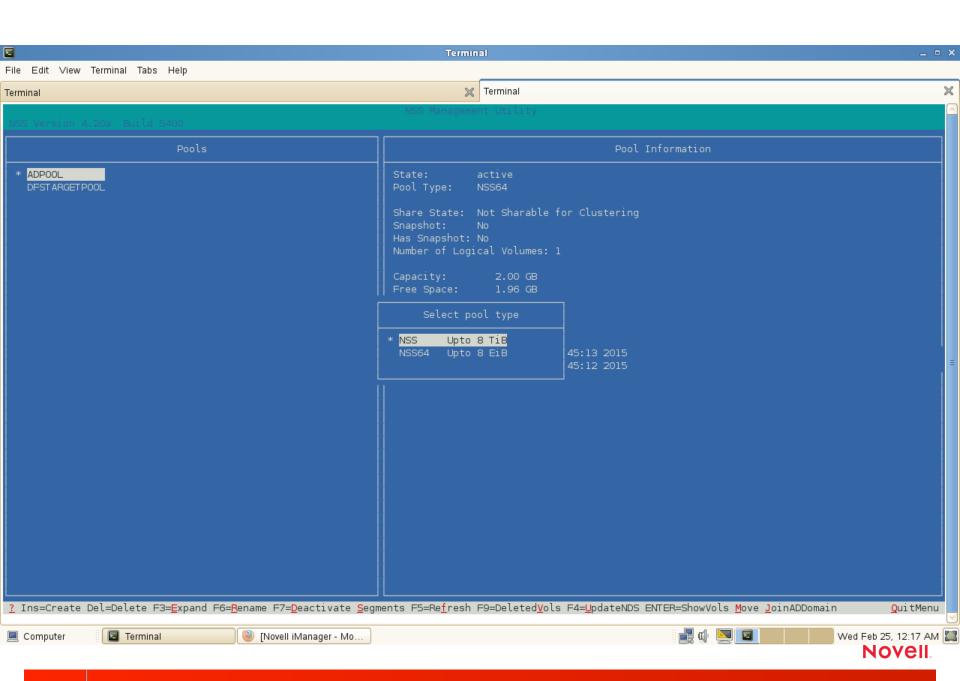
- eDirectory is <u>NOT</u> going away
- eDirectory will continue to be developed and enhanced
- AD Support Optional added capability
- eDirectory foot-print to continue
 - OES file services still need eDirectory
 - Additionally enables users from AD to access files
- eDirectory 9.0
 - Enters beta in the next couple of months
 - Focus on security (modernization of cryptography in eDir, Suite B, etc)
 - Performance / Scalability Improvements
 - Likely to be included in OES2015 SP1

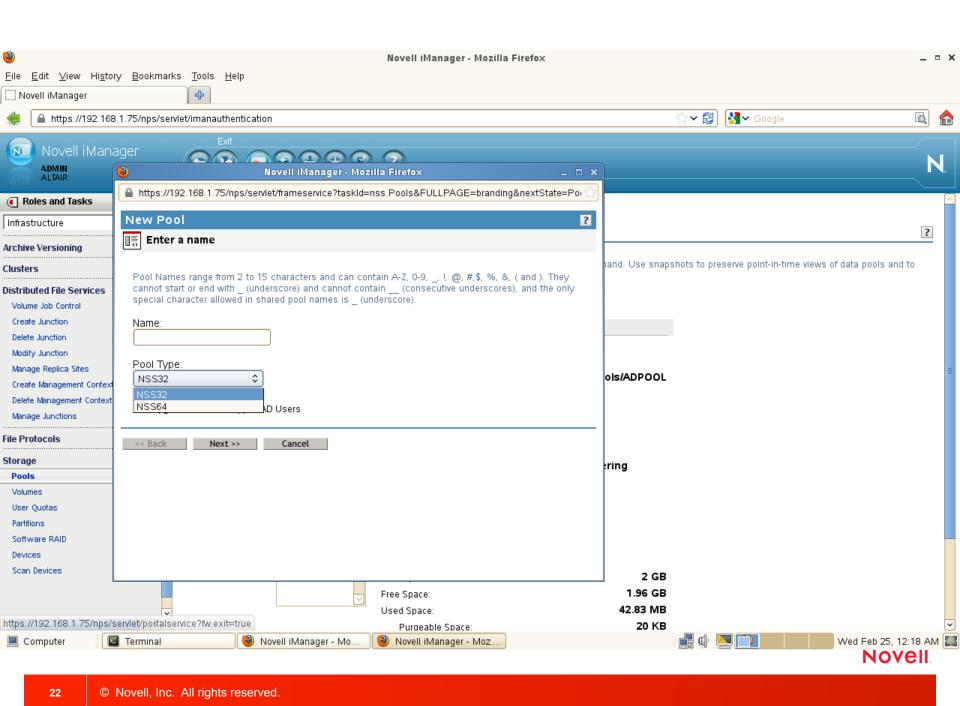
SMBv2

- · SMBv2
 - Focus on SMBv2 Protocol Support
 - Reduced chatter on the network
 - Number of verbs reduced from over 100 to under 20
 - 40% improvement in throughput over SMBv1
 - 30% improvement in response time over SMBv1
 - Improved scalability and security
 - Continuous improvement in each release

Large Storage Support

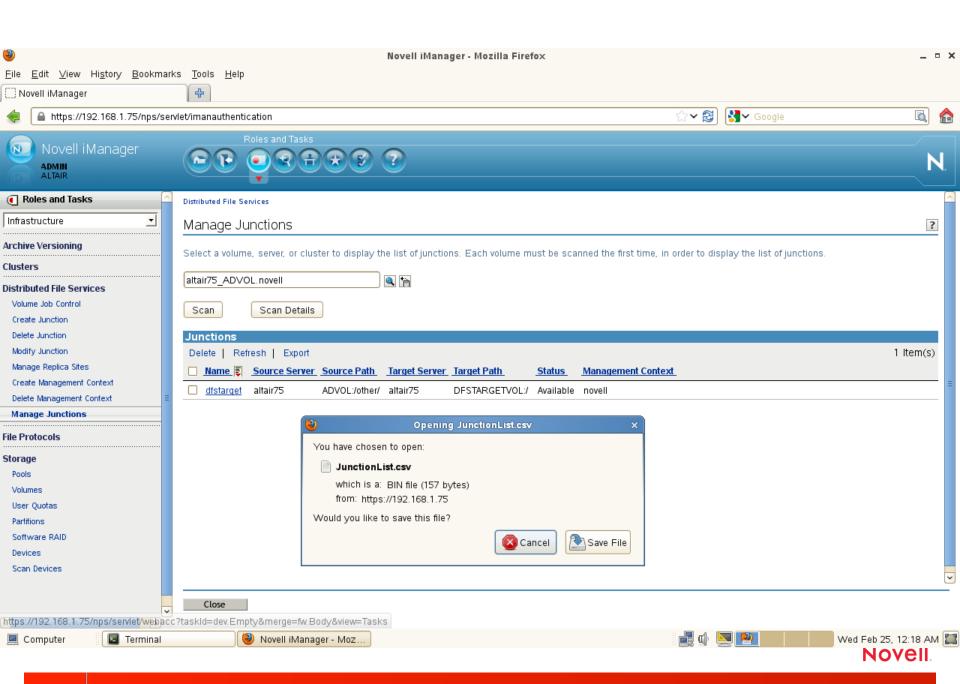
- Large Storage Support
 - Removes the 8 TeraByte limit with OES11
 - New limit 8 ExaByte (8 million TB)
 - New media format
 - Only supported with new pools & volumes
 - Moving existing date to 64 bit volumes
 - DST
 - Backup / Restore
 - Old and new pools can be hosted on same server
 - Supported over AFP, CIFS & NCP.
 - Future Proofing OES ...





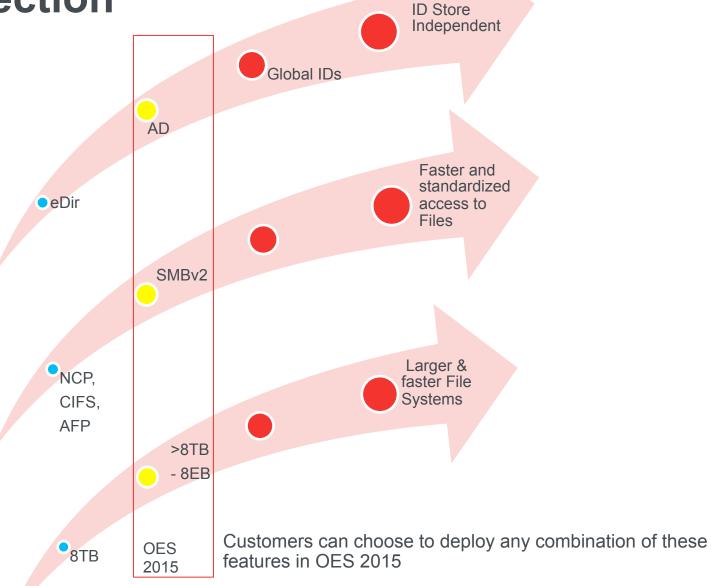
Other Enhancements

- DFS Junction Management
 - Large storage environments
 - DFS Junction sprawl
 - Managed so far with spreadsheets
 - Now scan and export the list of junctions at a volume level
 - Option provided in iManager
- iPrint Enhancements
 - Install Printers using any browser on Windows (IE, Firefox, Chrome & Safari). No need to run IE as Administrator.
 - Direct Print Accounting



Roadmap

OES Direction



Where we are with OES 2015?

Alpha

- Customer Inquiries late 2013 / early 2014
- Prototype taken for hands on validation with customers mid
 2014

Beta

- In Authorized Beta since Oct 2014
- Tremendous interest in the Beta
- Program currently has 100+ Beta Customers and Partners
- 2 Major Betas with around 7 Beta Drops
- Public Beta in late March

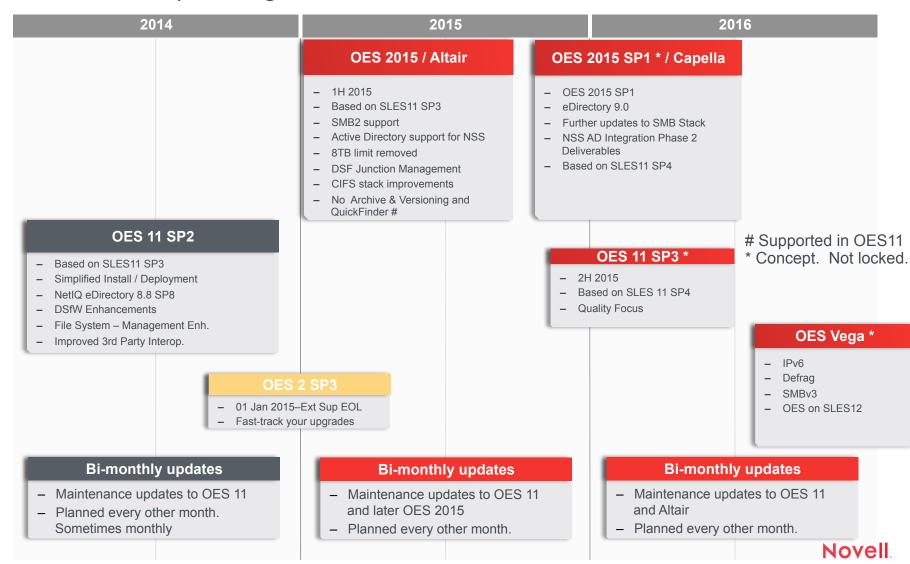
· FCS - Early Summer 2015

Open Enterprise Server

Shipping Planned

End of Life

New and Upcoming Releases



Open Enterprise Server 2015 SP1

"Capella"

Targeted Availability: **Late 2015 / Early**2016

Features / Themes

- eDirectory 9.0
- Enhance SMB Support
- Enhance CIFS access from Mac
- Based on SLES11 SP4
- File Stack Performance Improvements
- Newer Windows & Mac platform support
- Address deployment issue with NSS AD Integration for File Access



What's on the Radar

Open Enterprise Server

"Vega"

Targeted Availability: **Late 2016 / Early**

2017

Features / Themes

- IPv6
- SMBv3
- Defrag Support
- Based on SLES 12
- Improve / Simplify Update Mechanism
 - SLES Updates for OES from Novell Channel
- RMS & Backlog being evaluated and prioritized



Market Opportunities



Focus on the File stack

 Gain maturity with AD and SMB2 support. Integrate storage tiering with NSS and include Cloud storage as an option.



Security and Standards

 Keep current with eDirectory updates, add IPv6 support and built compliance with the Suite B security standard.



File Appliance

 Combine NSS, AD support, CIFS, DST and a simple Web administration into an appliance that is attractive for net new file/ storage customers. Think "NetApp Appliance".

Feedback / Comments?

- Public Beta in end of March / early April
- Download it try it
- Got some questions / comments drop a note to pmadhan@novell.com

Questions and Answers

Q & A

- Q: Does NSS64/AD/SMBv2 improve file caching and file lock performance - especially for databases like access, etc.?
 - A: We have not tested with MS Access database or similar use cases. Could you drop an email pmadhan@novell.com would like to understand the details, and if possible work together and see how this fares.
- Q: Any updates to QuickFinder as well?
 - A: QuickFinder along with Archive & Versioning Services, has been deprecated, and is not part of OES 2015. It is still part of the OES11 and will be maintained on the OES11 line. Filr is maturing and search functionality can be used in the future.

Q & A ... continued

- Q: AD, what's the status of DSfW going forward?
 - A: DSfW is included and is being maintained in OES 2015. We continue to support deployments and work on customer issues reported with newer versions of 3rd party products that integrate with DSfW. With the features delivered in OES11 SP2, it's more or less complete with the exception of AD 2008 / 2012 schema support. That's in the backlog and not the highest priority, as not many applications force a higher domain level and internally engineering is focused on AD integration.
- Q: Any plans for FIPS compliance with FILR?
 - A: FIPS compliance is on our roadmap for Filr

- Q: Are there any enhancements that impact virtualization?
 - A: No
- Q: What functional level of Forest / DC does the domain need to be running in order to have join OES to AD server?
 - A: Windows 2008 R2 or higher
- Q: What improvements in NCS are there in OES2015, they were demoing several at BrainShare?
 - A: Not many made it to OES2015 in an effort to reduce the number of "moving parts".

- Q: Is the upgrade from OES11sp2 to oes2015 a straight forward procedure?
 - A: Yes, for OES 11 SP2, we will support an in-place upgrade.
- Q: Is AFP going to be supported? (Apple File Protocol)
 - A: Yes, AFP is supported in 2015 on the traditional NSS32 and the new NSS64 volumes. However, it will supported only for eDirectory users.
- Q: Preventing longer downtime, is this referring to NSS rebuilds etc?
 - A: This is NOT pool rebuild. Typically if NSS media format changes, to upgrade the media format - is a long drawn process. This has been optimized to be done in a deterministic way in few seconds.

- Q: I see the focus is changed from previous OES to integrate with AD?
 - A: OES 2015 wants to make it possible for those who need to go to AD to not have to make a file system decision, as well. Flexibility is a strong goal for OES now, and in the future. Like reiterated, this is not at the cost of eDirectory and that continues to be our primary directory of choice.
- Q: Please give me a Kerberos ticket using a Novell Client with OUT a domain, so we can take advantage of SSO.
 - A: We'll pass that idea on as a future update. Thanks!
- Q: Salvage will be present?
 - A: Salvage for AD users is planned will be included in an update.

- Q: OES 2015 would be compatible with sles11sp4?
 - A: We strive to make sure that OES is compatible with newer versions of SLES, and SP4 is part of that. OES2015 SP1 is likely to be based on SLES11 SP4.
- Q: How do all of the AD and eDirectory tie-ins interface with IDM? Is there a need for AD driver?
 - A: There's no need for IDM or IDM driver for file access needs. Since it's native access for the AD users - there is no sync of AD users into eDirectory. User management is required only in one directory.
- Q: Will NSS support snapshots in a clustered environment?
 - A: Cluster snapshots is in the backlog

- Q: Will CIFS support Kerberos authentication?
 - A: yes, CIFS on OES has been Kerberized.
- Q: Will salvage be supported for Novell Client less users?
 - A: Not at initial release, but the goal is to add it in SP1 for AD users.
- Q: Will we be able to do AD integration on existing OES 11 resources or will that only be on new resources? (upgrading existing servers to OES 2015 from oes11sp2)
 - A: You will be able to do AD integration on existing resources, once the platform is upgraded to OES2015.

- Q: Will NSS get deduplication?
 - A: Dedup not in OES 2015 ... it's in the backlog but not exactly topping the list. With increasing de-dup at the block level by the storage vendors ... this is not our highest priority.
- Q: For customers migrating to AD is there a possibility to map AD-Users to eDir-Users on NSS?
 - A: Yes, OES 2015 will include a new web based utility called Novell User Rights Map or NURM which lets you map the identities of users in AD and eDirectory and then migrate the ACL's.
- Q: Can the DFS tie into a Windows DFS system?
 - A : Not today. But OES being a target for MS DFS Junction is in the backlog.

- Q: Has there been any thought given to parallel file systems, eg gpfs/lustre/ceph?
 - A: Not at this time.
- Q: Will we have a OES appliance?
 - A: These are things we are considering for future releases.
- Q: If our backend SAN will do thin provisioning on it's own is there a method to "zero" the blocks on an NSS volume?
- Q: Are there any enhancements to NSS that will allow for support of "thin provisioned" SAN LUNs?
 - A: Not supported at this time, but it's in the backlog.

- Q: What are differences between old NSS and new NSS-64 formatted pools regarding their features, besides the size ? AD support, Salvage, etc.?
 - A: Just size limits, in all other respects there's feature parity.
- Q: What 3rd party backup solutions will be supported with new version of NSS?
 - A: Our goal is to be able to support all current backup vendors. Because of way things are designed, this should be seamless for most vendors.
- Q: So is NCP performance about the same as cifs/ smbv2 now?
 - A: We plan to do proper benchmarks in the near future but from our early, ad-hoc testing, we are seeing comparable performance.

- Q: Will the explorer plugin work for DSfW and NSS over CIFS, too?
 - A: No, only for AD users on AD enabled NSS volumes.
- Q: Support for BTRFS?
 - A: BTRFS is supported today in OES 11 SP2
- Q: Will FTP for OES still be available and just not FTP for A/D?
 - A: Correct. FTP will be enabled for AD users in future update.
- Q: Will SEP sesam be one of those vendors?
 - A: Yes. We have reached out to them and expect they will be certified around ship time.

- Q: How is that working with licensing normally, I license users for eDirectory, but how do I license if my users are in AD when using them for NSS?
 - A: There are 2 options a pre-defined group can be created to and only those AD users who are members of that group will be allowed access to NSS or in the absence of that - all AD users will be allowed access. This will give you control over which and how many AD users have access to NSS.
 - Q: Does the AD integration mean that I can use the Novell client to do the AD/Domain logins without having to join the workstation to the domain?
 - A: NCP is not AD enabled and so Novell Client cannot be used as above.
 AD enabling is only via CIFS/SMB protocol. So, it's for AD users and if you want single sign-on for AD users, the workstations should be part of domain as its Kerberos authentication

- Q: Staying on SLES 11 SP3 for how long? It is good and stable.
 - A: We'll have SP1 for OES2015 based on SLES11 SP4 towards end of the year ... and since a previous release is supported for one year after the release of a SP OES 2015 FCS will be supported for close to 18 months (on SLES11 SP3). SLES11 SP4 is expected to be as stable for our needs.
- Q: There will be no DSfW anymore, right?
 - A: DSfW is part of OES 2015 and is supported and maintained. NSS AD integration is not a substitute for DSfW.
 - DSfW is primarily for those who don't have AD in their environment, but need AD style authentication, whereas NSS AD integration is people who have AD and are consolidating identities on that platform.

- Q: iManager is real slow in Storage management at this time. I have found no solution. Is it a bug fix?
 - A : You have to be specific. Can you drop an email?
 Normally given sufficient memory for Tomcat, iManager is pretty decent.
- Q: What is the current version of NSS on 64-Bit OES11 SP2?
 - A: If the question is based on past references to NSS version
 2 and version 3 from NetWare days ... we are no longer
 actively versioning along those lines.

- Q: Why take it so long to have SMBv2?
 - A: There was not a need until Windows XP was the dominant client platform as that could do only SMBv1. Though SMBv2 was introduced with Vista – that platform adoption was not great and it was really needed once Windows 7 adoption gained pace after XP EOL in April 2014.
- Q: Is there any chance to get something like Console One back? iManager is quite unnerving sometimes...
 - A: No, but new interfaces are being made available in tune with the platform they are used on. For example the shell extension for right management. New web based utility for ACL migration and mapping, etc.

- Q: Will IDM Bundle Edition be updated to IDM 4.5?
 - A : Yes, eventually. Usually Bundle Edition is released 18 months after the release of full version.

- Q: Does that mean we loose salvage completely? or only on the AD side?
- Q: No salvage at all? or no salvage using AD?
 - A: This is only on the AD side with a Microsoft Client. Salvage will still be there as long as you use a Novell Client. We hope to update the Windows Explorer plugin by SP1 to also support Salvage.

- Q: Can you upgrade the file system from 32 to 64 in place?
 - A: No only new 64 bit pools can be created. It was a conscious call - to upgrade existing would mean - requiring everyone to backup all data - it complicates things in terms of proving data integrity simply but effectively. So it was deemed not worth the risk and customers agreed in our inquiry.
 - Options like Backup / Restore or DST will help achieve this.
- Q: Will OES2015 maintain compatibility with Storage Manager eDir or will we need to manage shares via Storage Manager AD or both?
 - A: Storage Manager for eDirectory will work as is like today.
 But integrating it for AD users will be done in a future release.

- Q: Will NSS now address thin provisioning on SANs?
 - A: This is certainly in the backlog, but it won't be included in the initial release.
- Q: Can AD server be OES 2015? (allow no windows server, but removes Novell client need)?
 - If the intended question is can this be a DSfW server to with which we do NSS AD Integration, in place of real AD – the answer is NO. This may work, but is not tested or supported as of now.
- Q: Is the AD support based on Samba?
 - No

- Q: Is there an in-place upgrade option to go from OES11.1 to OES2015?
 - A: Yes
- Q: In OES 2015 will there be still a IDM Bundled Edition?
 - A: Yes
- Q: I second this request "Please give me a Kerberos ticket using a Novell Client with OUT a domain, so we can take advantage of SSO"
 - A: Duly noted. :) We'll pass this along!

- Q: Does the NSS AD Support replace the Identity Manager (old DirXML) process for transferring information between eDir and AD?
 - A: If the sole purpose of doing that earlier was to give AD users access to files on NSS, then yes. But in general, the answer is No. With IDM you are synchronizing information between 2 directories. With OES 2015 eliminates the need to have user identity in 2 directories.

- Q: Will I be able to do an in-place upgrade from OES11 to OES2015?
 - A: Yes
- Q: Is 2015 the first OES to offer 64bit NSS?
 - A: Yes and No. Internal address has been 64 bit for a while, but block address was not. This release is the first time block addressing is 64 bit and that contributes to the significant storage size increase.
- Q: OES11 and OES2015 can be a member of the same NCS cluster?
 - A: Yes as long as your cluster resources don't contain
 NSS64 or AD enabled volumes which can't run on OES 11.

- Q: Can you explain again the last paragraph, about a NETAPP Storage?
 - A: It's a "futures" consideration with the AD Integration now, and existing eDir integration – can we have a plug-n-play appliance for any enterprise.
- Q: Will eDir users still be able to access the server via CIFS without being an AD user if NSS4AD is installed.
 - A: Yes. And they get the benefits of SMBv2 and NTML-SSP authentication improvements.
- Q: Are there any plans for online pool verify/repairs? Large volumes can take a while to check/repair
 - A: In the backlog

- Q: Is (Beta) Documentation available?
 - A: Beta documentation can be found here:
 https://www.novell.com/documentation/beta/oes2015/
- Q: Will DSfW support new versions of AD? Currently the DSfW version included in OES11 SP2 presents as Windows 2003 AD.
 - A: DSfW is not being updated in this release. This is in the backlog with no priority attached at the moment, as there are not many applications that require or mandate a higher domain level / schema.

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- Q: Our license is Novell Open Workgroup Suite Small Business Edition 2.5, and we use OES 11 (and ZENworks) as part of that. Will there be a similar suite that will include OES 2015? And, if yes, will a valid maintenance for the current suite be enough to obtain OES 2015?
 - A: Novell Open Workgroup Suite customers will get access to OES 2015 once it ships and becomes available.

- Q: Do I have to continue to create users in eDirectory once I am integrated with AD?
 - A: No, once NSS is integrated with AD, and any existing users are migrated, you no longer need to create users in eDirectory. You can create new users or modify existing users in AD. You will however need users in eDirectory if they plan to use OES services like iPrint, NetStorage or use AFP to access NSS volumes.

Note: OES customers have access to the iPrint appliance which does support users in AD.

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