

# References and Important Disclaimers

## Synology 2021

All testing results with DSM 7.0 were done on preliminary, non-final builds. Actual performance gains may vary depending on system configuration, environmental variables, and usage conditions.

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## System Management with DSM 7.0

- **Password Reuse**  
Source: Google / Harris Poll survey – “Online Security Survey” February 2019
- **Fast RAID Repair**  
Preliminary test result measured by Synology. Comparison done on DSM 7.0 with a 50% full volume. Fast Repair option enabled and disabled resulted in approximately 1hr 9min vs 2hr 30min time for rebuild completion.
- **SHA Failover**  
Preliminary test result measured by Synology. Test conducted on DS1819+ servers comparing DSM 7.0 vs DSM 6.2.3, failover time - 33 seconds vs 48 seconds.
- **SHA Upgrade**  
Preliminary test result measured by Synology. Test conducted on DS1819+ servers comparing between DSM 7.0 and DSM 6.2.3. DSM upgrade time reduced to 65 seconds from 305 seconds.
- **RAID6**  
Preliminary test result measured by Synology. Test conducted on RS3617xs+ comparing DSM 7.0 vs DSM 6.2.3, random IOPS – 108K vs 60K. Under degraded mode, 83K vs 48K. RAID 6 optimizations are applicable to devices on Broadwell, Purley, and Grantley platforms.
- **SSD Caching – Metadata Pinning**  
Preliminary test result measured by Synology. Test conducted on RS3617xs+ consists of removing a 40GB file through Active Backup for Business on the same device model without SSD cache, with SSD cache, and with SSD cache and metadata pinning enabled: 33min, 13min, 3min.
- **SSD Caching – Write-Back**  
Preliminary test result measured by Synology. Test conducted on RS3617xs+ with 640 GB data set, comparing DSM 7.0 vs DSM 6.2.3. Approx. 88.4 MB/s vs 29.9 MB/s

- **Active Backup for Business – Deduplication**  
Data collected from Synology customers. Otsuka: 22.55 TB to 2.9 TB. Shiseido: 58 TB to 28 TB.
- **DSM 7.0 Preview**  
Total number of registrants from DSM 7.0 Preview Program.
- **Global deduplication** is an upcoming storage efficiency technology that will be released separately in 2021. A final list of supported devices and specifications will be made available closer to release.

## Data Backup

- **Number of Backup Solutions**  
Source: Spiceworks – “Backup to the future” 2016
- **Linux Statistics**  
Source: W3Techs – obtained September 2020
- **Operating System Market Share**  
Source: NetMarketShare – obtained September 2020
- **Active Backup for Business Compression**  
Preliminary test result measured by Synology. Test conducted using a data set of 2566 GB vs compressed size of 1539 GB. Results will vary depending on the composition of the data set.
- **Number of Microsoft 365 Accounts**  
Calculated from anonymous statistics collected by Synology – obtained September 2020
- **Global Deduplication / Agentless VM Protection / Instant Restore**  
Only available on Active Backup for Business
- **C2 Statistics**  
Calculated from anonymous statistics collected by Synology – obtained August 2020
- **Hyper Backup**  
Supported DSM package list: Audio Station, Video Station, Synology Drive, Synology MailPlus Server, Synology Mail Server, Synology Chat, Storage Analyzer, Surveillance Station, Cloud Sync, USB Copy, Universal Search, Download Station, Media Server, Antivirus Essential, Log Center, File Station, Central Management System , Active Directory Server, Synology Directory Server, Note Station,

Synology Office, DNS Server, Glacier Backup, Hyper Backup, Hyper Backup Vault, Synology Contacts, Synology Calendar, Presto File Server, Proxy Server, RADIUS Server, VPN Server, Web Station, Secure SignIn, WebDAV Server, OAuth Service, SSO Server, Synology Application Service, DHCP server

- macOS backup, DSM backup, device/SaaS backup to C2 storage are upcoming services that will be released later in 2021. A final list of supported systems/services and specifications will be made available closer to release.

## Hybrid Cloud

- C2 Directory is an upcoming service that will be released later in 2021. A final list of supported features and specifications will be made available closer to release.
- **Local / Cloud Performance Comparison**  
Preliminary test result measured by Synology. Test conducted by comparing response time of local authentication cached on a Synology NAS versus a popular DaaS provider using the same protocol (AD). Results may vary depending on location, network environment, and other setup or environmental variables.
- **Drive Lifespan**  
This feature is only supported for installed drives that support lifetime analytics.

## Photo Management

- **Photo Management Statistics**  
Calculated from anonymous statistics collected by Synology – obtained April 2020
- **Thumbnail Generation Performance**  
Preliminary test result measured by Synology. Test conducted using a DS119j vs iPhone SE, measuring the time needed to generate a thumbnail from a HEIC format picture. Results will vary depending on the Synology device model, client device, and file format.