Solution Reference Architecture Program

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Storage Group

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Solutions Focus

• Data growth is exploding – so are storage needs

• A solutions approach can help you to address the challenges and issues of this transformation and even capitalize on it
  • Look to emerging technologies like flash, scale-out architectures, object storage, and innovative SW from ISVs
  • Deploy the building blocks of software-defined storage today (scale-out using standard servers) to pave the way for the full SDS vision tomorrow

• Intel delivers the ingredients for innovative storage solutions
  • Processors, chipsets, SSDs, networking, software, white box servers
  • Solutions Reference Architectures (SRAs) with partners to address specific storage workloads and challenges
Solution Reference Architecture Program

WHAT?
• Intel SRA is a 10-15 page written reference architecture document
• Addresses a specific storage use case or challenge in the data center
  • Includes HW/SW BOM and test results

WHY SHOULD AN IT PERSON CARE?
• Showcases solutions optimized with Intel technologies - available TODAY
• Reduces time and investment to evaluate and implement a solution or POC

HOW?
• Review the list of storage use cases and challenges addressed, and identify issues facing your data center
• Evaluate the SRA solution and your use case
• Intel can matchmake with solution providers and integration services
**Intel-Cloudian Solution Reference Architecture**

**Hadoop Big Data Analytics**

- **Target audience:** Large to Mid-market enterprise
- **Showcases an efficient and elastic infrastructure for running Big Data analytics on data in place at petabyte scale**
  - Uses Cloudian HyperStore object store – available as SW or a turnkey appliance
  - Shows that performing end-to-end analytics on a data set using Hadoop on Cloudian HyperStore reduces the execution time up to 25% vs. just Hadoop
  - Tested config also applicable to file sync-n-share, backup and archive, secondary storage for Citrix* CloudPlatform or OpenStack*
- **GTM path:** SW or appliance thru Synnex, Colfax (US), NAS UK, Rausch (EMEA), NTTsoft, Hitachi (Japan)
- **SRA:** posting in process! Watch for it at [www.intel.com/storage](http://www.intel.com/storage)

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<thead>
<tr>
<th>Hortonworks* Hadoop 2.1</th>
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<td>Cloudian HyperStore</td>
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<td>Supermicro* SSG-6027R &amp; 5018A servers</td>
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<td>Xeon E5-2600 v2 &amp; Atom C2750</td>
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<td>Intel S3500 SSD</td>
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<td>Intel X540 10GbE</td>
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* Other names and brands may be claimed as the property of others

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## Intel-Fujitsu Solution Reference Architecture

### VM Image Hosting using Ceph

- **Target audience:** Large enterprise and Cloud service providers
- **Showcases a highly scalable, unified block and object store**
  - Offers Ceph storage as a turnkey appliance in the Fujitsu Eternus CD10000
  - Shows that Ceph can offer highly scalable I/O in a pay-as-you-grow infrastructure
  - Tested config also applicable to cloud storage, block storage within IaaS, archival or cold storage
- **GTM path:** available through Fujitsu and Red Hat partners worldwide

### Applications
- OpenStack Cinder*
- Open source Ceph
- Fujitsu Eternus CD10000

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<th>Xeon E5-2640 v2</th>
<th>Intel P3700 SSD</th>
<th>Intel 1Gb &amp; 10GbE</th>
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Intel-Maxta Solution Reference Architecture

Simplified Microsoft Exchange Deployments

• Target audience: Mid-market enterprise
• Showcases a simplified and cost-effective Microsoft Exchange* deployment
  • Utilizes a hyper-converged solution – Maxta Storage Platform
  • Demonstrated 3,642 Exchange I/O transactions per second
  • Tested config also applicable to databases workload
  • GTM path: available through solution providers Thinkmate* and Pogo Linux* (US), Core Microsystems (Japan), InfoMacro (Macao), Shenzhen Irigud Technology
  • SRA: https://www-ssl.intel.com/content/www/us/en/storage/maxta-storage-white-paper.html

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<th>Microsoft Exchange</th>
<th>VMware ESXi</th>
<th>Maxta Storage Platform</th>
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<td>Intel S2600WT server board</td>
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<td>Xeon E5-2697 v3</td>
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Intel-Maxta Solution Reference Architecture

Virtual Desktop Infrastructure (VDI)

- Target audience: Mid-market enterprise
- Showcases a simplified and cost-effective VDI deployment
  - Utilizes a hyper-converged solution – Maxta Storage Platform, running on VMware Horizon 6* with View*
  - Demonstrated faster application response times than industry average at 995ms on 456 user sessions
- GTM path: available through solution providers Thinkmate* and Pogo Linux* (US), Core Microsystems (Japan), InfoMacro (Macao), Shenzhen Irigud Technology

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Intel-VMware Solution Reference Architecture

Cost-Effective, Scalable Storage for Tier 2 Workloads

- Target audience: Mid-market enterprise
- Showcases a cost-effective and scalable solution for Tier 2 workloads and test/development environments
  - Utilizes a hyper-converged solution – VMware Virtual SAN
  - Maintains linear performance gains, and peaks at over 17,000 IOPS with 64 concurrent VMs
- Tested config also applicable to VDI
- GTM path: available through broad set of VMware channel partners or EVO:RAIL appliances

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Storage Usage Models + SRAs

- Simple data services: In-memory DB, Data Warehouse, Data Mining, Analytics, Home NAS, Media, Object Storage, Cold data storage
- Advanced data services: HPC, File Consolidation, E-mail, Medical Imaging, Backup
- Performance: VDI, CRM, ERP, OLTP, Block Consolidation, Virtualization
- Capacity: Maxta, Cloudian, VMware, Fujitsu, Ceph

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Intel can put you on the path to SDS
Intel’s Storage Assets

PROCESSOR PLATFORMS

Intel® QuickAssist Technology

Intel® Storage Acceleration Library (ISA-L) & Storage DPDK

NETWORKING AND FABRIC

Intel® Cache Acceleration Software

INTEL-BASED STORAGE SYSTEM

SERVER BOARDS & SYSTEMS

SSDs & NVM

SOFTWARE ECOSYSTEM + SOLUTION REFERENCE ARCHITECTURES