

<b>Name:</b> Virtualised Storage Systems		<b>NEPTUN-code:</b> NIXVT1FBNE	<b>Number of periods/week:</b> full-time: 2 lec + 0 sem + 1 lab
<b>Credit:</b> 4 <b>Requirement:</b> mid-term mark		<b>Prerequisite:</b> NIEORIEBNE Operating Systems	
<b>Responsible:</b> Miklós KOZLOVSZKY, Ph.D.	<b>Position:</b> associate professor	<b>Faculty and Institute name:</b> John von Neumann Faculty of Informatics Institute of Biomatics	
<b>Way of assessment:</b> - passing on the mid-terms			
<b>Competences</b>			
<b>Course description:</b>			
<p>The main goal of the course is to provide comprehensive knowledge about the features and architectures of storage systems designed for data centers; beginning from the properties of storage elements (SATA, SAS, SSD, tape) through their physical and logical data security levels (RAID, Logical Volume Managers), and ending with the basics of distributed network filesystems (such as GlusterFS). The architecture of storage systems (DAS, NAS, SAN) and then the applied protocols (iSCSI, FC, FCoIP) as well as various storage virtualization techniques are presented. Further major topics: Information Lifecycle Management, backup policies, high availability systems and disaster tolerant solutions, public cloud storages (Amazon, Google, Microsoft), self-hosted solutions (e.g. OwnCloud and Pydio), and storages for server environments (such as Ceph, FreeNAS, OpenFiler) based on clouds.</p>			
<b>Literature</b>			
<p>Dezső Sima Dr. Tamás Schubert Dr.: Data Centers, Typotex kiadó, 2011 (in Hungarian)  EMC Education Services: Information Storage and Management, Wiley Publishing, 2009 (electronic notes)  Jason Venner: Pro Hadoop, Apress, 2009 (electronic notes)  Tom White: Hadoop The Definitive Guide, O'Reilly, 2015 (electronic notes)  Jason Buffington: Data Protection for Virtual Data Centers, Wiley Publishing, 2010</p>			