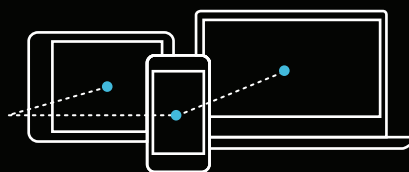


Buyer's Guide

Lenovo™



BIG



DATA

Equals Higher Profitability

Know the Three Pillars of the Big Data Strategy



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Big Data Can Open Up Multiple Avenues

All businesses today realize the importance of big data and how it has the capacity to effectively transform organizations. In spite of this awareness, organizations are either procrastinating investing in big data analytics solutions or struggling to reap the ROIs they had planned from this investment. But why so? It's because without the right technology partner and solution, big data deployment and execution can become a daunting task.

Some of the biggest pain points that businesses and IT departments face while deploying big data solutions:



Storage Solutions



Scalability Challenges



Big Data Security

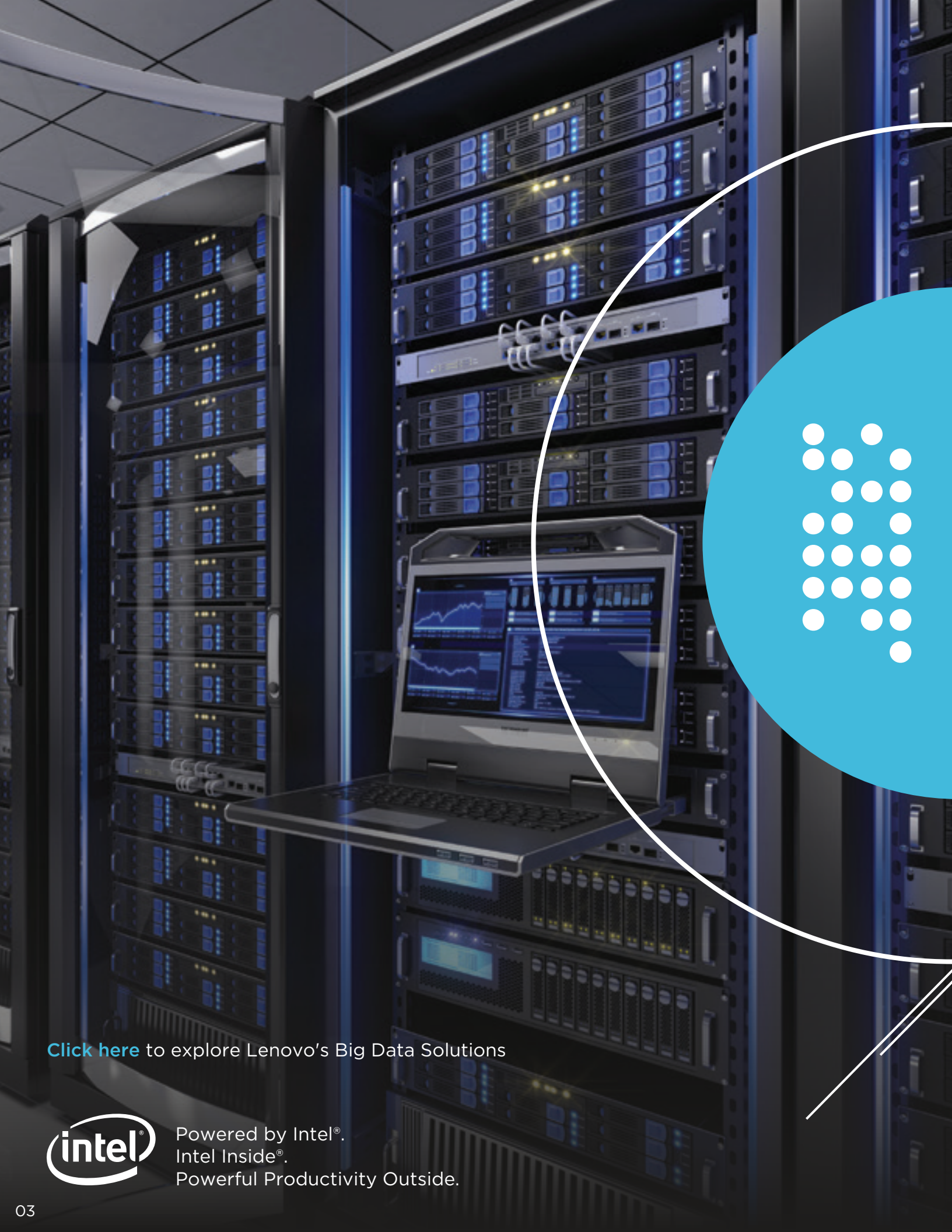


Manageability




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Devising an Effective Big Data Strategy

This is a three step process:



Big Data Integration and Analytics Solutions



Data Visualization and Interpretation



Departmental Interoperability

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Big Data Integration and Analytics Solutions

Data Visualization and Interpretation

Departmental Interoperability



Big Data Integration and Analytics Solutions

Choosing the Right Big Data Solution for Your Organization

To derive real value from big data every business needs the right tools to capture, organize and analyze it. However, before implementing the big data strategy, one must determine the type of information that needs to be collected and from where. It is critical that the information is consolidated into a robust and secure central system that is supported by powerful storage, processing, networking, and analytics software.

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There are five important elements to consider before choosing a big data solution:



Scalability

Big data needs big space. With the volumes of data we're talking about, it's easy to run out of space. The computing devices used by big data analysts need to be scalable, to keep up with the constant data flow and analysis.



Security

The need to think through all the vulnerabilities across the data ecosystem cannot be emphasized enough. It is essential to maintain security and privacy requirements of each data source involved in any data integration process.



Integration with Existing Architecture

Big data applications acquire data from various sources and an important success factor is its ability to integrate with the existing IT ecosystem.



Processing Capability

Big data encompasses large volumes of structured, semi-structured, and unstructured data and therefore requires advanced processing capabilities to drive real time analysis.



Infrastructure Availability

When managing big data, chances of downtime and service interruptions are high. The big data infrastructure solution implemented in an organization must reduce the impact of such occurrences. A reliable high availability system can automatically recover from server or component failure.



Big Data Integration and Analytics Solutions

Data Visualization and Interpretation

Departmental Interoperability



Big Data Integration and Analytics Solutions

Lenovo Solutions



Lenovo Big Data Validated Design for Cloudera Enterprise

A certified solution to support both Apache Hadoop and Apache Spark environments. These tested configurations perform complex analytics on structured and unstructured data. They provide the planning, design considerations, and best practices for deploying Cloudera Enterprise with a variety of Lenovo products including Lenovo ThinkSystem servers and System x servers.



Lenovo Big Data Validated Design for Hortonworks Data Platform

Jointly tested and validated by Lenovo and Hortonworks, this platform comes with a predefined configuration that provides a baseline for big data solutions. This can be modified, based on specific customer requirements, such as lower cost, improved performance, and increased reliability.



Lenovo Big Data Validated Design for IBM BigInsights

Combines the Lenovo x3650 M5 server with IBM BigInsights, a distribution of Apache Hadoop for analysis of both unstructured and structured data. With enhanced performance, storage, and memory capacity, you can obtain faster insights from large-scale data analysis.

The analysis of data drives decisions in every business. To gain better business insights, you need to manage the volume, variety, and velocity of data, while applying analytics. Lenovo servers provide highly reliable and flexible foundations for your business analytics solutions so you can unlock the value of your data and deliver insights faster.



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Lenovo Solutions



Lenovo Big Data Validated Design for MapR Converged Data Platform

Engineered to run the latest MapR Edition of the Apache Hadoop distribution for a simple, reliable big data solution. On top of the platform services, MapR packages a broad set of Apache Hadoop open source ecosystem projects that enable big data applications. This provides an open platform that lets administrators choose the right tool for the job. The architecture is built on the Lenovo System x3650 M5 and System x3550 M5 high-performance servers and Lenovo RackSwitch switches. It simplifies Hadoop implementation by combining the extensive API support and ease of use of MapR Hadoop with the performance and reliability of Lenovo servers and switches.

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Lenovo Big Data Validated Design for IBM BigInsights SQL Analytics

SQL Analytics on big data clusters is gaining adoption both for its features and performance. Spark SQL enables enterprises to realize the benefits of real-time analytics and gain faster insights. This solution supports the deployment of either Apache Spark SQL or IBM Big SQL. It provides significant performance and cost advantages for analyzing massive datasets with its in-memory processing engine and support for running SQL analytics.



Lenovo Solutions for SAP HANA

With Lenovo System solutions for SAP HANA, you can instantly access, model, and analyze all of your SAP business transactional and analytical data from virtually any data source in real-time. The Lenovo Scalable Solution for SAP HANA enables large memory configurations up to 36TB for your SAP S/4HANA applications.



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Data Visualization

Making the Most of What the Data Has to Offer

Understanding data can be a challenge, especially when massive amounts of data are involved. Visualization is one of the most important tools which transforms big data into knowledge that is relevant for decision-making. But with data pouring in from every direction, effective visualization will require end computing devices with:

- Accelerated processing capabilities to process huge volumes of data
- A solid memory capacity
- Effective graphic capabilities
- Multi-monitor support

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Key Aspects of Data Visualization:



Graphical Representations

2D or 3D representations of data, leverage the right frameworks to represent the data effectively.



Assess Multitude of Data Sets

To derive a holistic overview.



Visual Story Telling

Sequential depiction of data to help see the larger picture with impact, next steps, and benefits.

Lenovo Solutions

Lenovo devices enable effective visualization with the power to process large data sets along with the ability to run specialized visualization software.



Big Data Integration and Analytics Solutions

Data Visualization and Interpretation

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End User Computing ThinkCentre Tiny

ThinkCentre M710 Tiny



The ThinkCentre Tiny comes with up to **8th Generation Intel® Core™ vPro™ processors with Intel® Integrated Graphics 630** that can carry out intensive tasks like analyzing and visualizing big data up to 2.2 times faster. It also has a powerful memory integrated with **Intel® Optane™** that is a smart and adaptable system accelerator that adjusts to your computing tasks, making everything you do fast, smooth and easy. Its addition to Lenovo end computing devices gives them the performance boost they need.

[Click here](#) to explore Lenovo's Big Data Visualization Solutions



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Lenovo V Series Desktops

Lenovo V520s SFF



Powerful, fast and easy to manage, the Lenovo V series desktops are energy efficient. Armed with the latest Trusted Platform Module 2.0, the Lenovo V series desktop provides robust security for your data.



Big Data Integration and Analytics Solutions

Data Visualization and Interpretation

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End User Computing ThinkStation P Series

ThinkStation P920



The ThinkStation P series features the latest **Intel® Xeon® processors** and **NVIDIA® Quadro®** graphics cards that can transform big data into rich visuals like graphs, charts and powerful dashboards.

[Click here](#) to explore Lenovo's Big Data Visualization Solutions



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ThinkPad P Series

ThinkPad P71



The ThinkPad P series mobile workstations are certified to support all major ISV applications, including Adobe, Autodesk, Avid, Dassault, PTC, Siemens and more. Also with **Intel® Thunderbolt™** port for fastest connection, get unmatched data transfer speeds.



Big Data Integration and Analytics Solutions

Data Visualization and Interpretation

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Data Visualization Accessories



ThinkVision Monitors

Pair the reliable ThinkStation P series workstation or the ThinkCentre Tiny with a ThinkVision monitor for a superior, full-HD experience. The ThinkVision monitors feature up to 75% color gamut, 16.7M colors, and a 1000: 1 contrast ratio.



Docking Solutions

Experience dual 4k display, fast charging, peer to peer data transfer with ThinkPad **Thunderbolt™** docking station. It can be supported by a range of devices like enterprise PCs, mobile workstations and desktops.



ThinkPad USB 3.0 Secure Hard Drive

Offers high-level 256-bit Advanced Encryption Standard (AES) security within a slim, lightweight, self-powered, easy-to-use design.



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Data Visualization

Services

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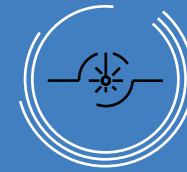
Encryption Services

Hard drive encryption is essential to prevent unauthorized access to data sophisticated attacks.



Asset Tagging

Having your IT manually apply asset tags to your organization's computers is a time-consuming and expensive process. However, Lenovo Asset Tagging reduces your costs by having Lenovo apply your asset tag during manufacturing.



Laser Tagging

A misplaced laptop can be costly. Help deter theft and increase brand recognition by having Lenovo laser etch as your laptop cover during manufacturing.



Deployment Automation Services

Enabling organizations to increase capacity through shifting specialized technical activities such as image design and delivery to hardware manufacturing.



First Boot Services

With Lenovo First Boot, automate the processes for any image type and move the activities into Lenovo manufacturing. As a result, you save time, resources, and costs right from the start.



Smart Image

Manage multiple images and drivers, as well as tackle driver installation issues with Lenovo's Smart Image that gives you compatibility across all Lenovo-based hardware platforms.



Big Data Integration and Analytics Solutions

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Cloud Solutions

Driving Departmental Interoperability

One of the biggest woes while deploying big data solutions is departmental silos. Without the access to complete and accurate data even the best of big data solutions cannot yield business benefits. Hence departmental interoperability becomes one of the foundational requirements for deploying big data solutions.

[Click here](#) to learn more about Lenovo's Cloud Solutions



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Key requirements from interoperability solutions:



Scalability

Data sources are growing by the day. For effectively leveraging this increasing volume of data the IT infrastructure should be able to append this with minimal effort.



Security

With big data comes bigger responsibility to protect it. This is not only needed to ensure competitive differentiation and edge but also meet regulatory compliance.



Mobility

Given that almost 40% of global workforce is mobile, the aspect of remotely and securely accessing organizational data becomes critical.



Big Data Integration and Analytics Solutions

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Cloud solutions

Lenovo Cloud Solutions

Lenovo cloud solutions can help quickly deploy IT solutions and applications, respond faster to emerging opportunities. When combined with Lenovo's comprehensive suite of services – the industry's top-rated systems from Lenovo with advanced capabilities of Microsoft Hyper-V – the Lenovo Cloud offerings for Microsoft Hyper-V enable you to take the guesswork out of Cloud. Based on individual needs, Lenovo offers solutions that include [ThinkAgile](#), [SUSE](#), [RedHat](#) and [VMware](#).

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ThinkAgile SX for Microsoft Azure Stack

This is a simplified, integrated, turnkey hybrid cloud solution for delivering Azure consistent services from your own data center. Engineered on industry-leading stable, resilient, and high performing software-defined infrastructure, it provides a world-class foundation for transforming data center resources into consistent hybrid cloud services.



Red Hat Cloud

The Lenovo Cloud Validated Design for Red Hat OpenStack Platform enables you to set up and roll out your virtualized infrastructure with optimized configurations for hardware, software, and cloud deployment. It gives your business the ability to turn up new services faster and with less effort. When combined with Lenovo's comprehensive suite of services, this validated design can help you simplify your infrastructure and virtualization management.



SUSE Cloud

The Lenovo Validated Design for SUSE OpenStack Cloud enables a cost-effective, easy-to-use offering for customers interested in deploying their own Infrastructure-as-a-Service (IaaS) cloud environment. This validated design features highly available configurations based on the Lenovo x3550 M5 and x3650 M5 high-performance servers, which enables both nodal and solution scaling.



VMware Cloud

The Lenovo Cloud Validated Design for VMware Software Defined Data Center brings state-of-the-art cloud capability to the small, medium and enterprise data centers, supporting public, private and hybrid cloud architectures. When combined with Lenovo's comprehensive suite of services, the primary benefit of deploying this solution in a VMware Cloud environment is the ability to turn up new services faster and with less effort.

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5

reasons

why Lenovo is a difference maker



Trusted around the world



Expertise across categories



Choose Lenovo with confidence



Business-boosting technology



Flexible support network



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