BIS Release Notes

Version: SP110 Revision 12

October 12, 2022

SEEBURGER
BUSINESS INTEGRATION

Table of Contents

1 Getting Started

The following Release Notes refer to the BIS and B2B Portal release **6.5.2 SP110 Rev 12.0** and release **6.7.110 Rev 12.0**.

Before you start working with this release, check article ID [**20151120-0674**] on the *SEEBURGER Knowledge Base* (https://servicedesk.seeburger.de) for the latest revision of **BIS6_ReleaseNotes** , **BIS_Changelog** and the BIS documentation manuals.

> **I** The information about **New and Noteworthy** , **Known Issues** and **Update Instructions** are stored in a new document. Please refer to **BIS_Changelog** which is distributed together with the **BIS6_ReleaseNotes** document.

1. Read the section *Installation Requirements* (page 7) and the **BIS_Changelog** document before installing or upgrading your system.
2. Use the **BIS Installation** manual for the installation procedure.

Security

The SEEBURGER Secure Software Development process includes monitoring dependencies for known security vulnerabilities, as well as responding to incident reports, and actively improving the security posture (hardening) of the SEEBURGER software.

One communication channel used for announcing security updates are the release notes published with each service update (in the New and Noteworthy section of the BIS Changelog document).

More general topics on Information Security vulnerabilities and best-practice as well as urgent security alerts are distributed to customers via the SEEBURGER *Knowledge base (* *https://servicedesk.seeburger.de* *)* in the Security Bulletin article ID [**20141114-0396**].

Documentation

For accessing the product documentation, three types of navigation indices (alphabetical, logical/hierarchical, sitemap-style) are provided, which can be selected over a main index.html file. Each of the navigation indices includes links to all available manuals for your BIS version.

On the installation media, the location of the documentation index is

    <MEDIA>/doc/index.html

After BIS 6.5 installation, the documentation index is copied to:

<BIS6_HOME>/software/spm-repository/doc/index.html

The BIS Front-end, BIC Mapping Designer and Developer Studio use a built-in "F1" online help.

There are also links to the documentation index on the BIS 6.5 administration portal web pages. With the new App Framework portal (BIS 6.7) the "Documentation" app requires the "AccessDocumentation" right (which should be part of group BIS_ADMIN and BIS_USER).

2 General Setup Information

The setup routine on the BIS 6.5 media supports the following installation modes:

- Patch installation (Service Pack)
  - Parallel (all Instances Offline)
  - Rolling (only within 10 service packs, starting with 6.7.122 we support n-12)
- Upgrade/Extend installation
- Repair installation

The patch option patches your installation with the same features and fixes that are contained in the 6.5.2 maintenance release.

Initial Installations of BIS 6.5.2 are no longer supported; it is recommended to install recent BIS 6.7 releases instead.

Installations of hotfixes should be avoided. Remember that hotfixes are not integrated into the spm-repository which is used for new instance installations. This means hotfixes have to be applied on all instances (even new ones).

The setup can handle BIS and B2B Portal instances. The release notes and installation manual covers both types, but only new installations of BIS 6.7 is supported.

The new Installation Server (BIS Landscape Manager or Web Installer) is available on the installation media. This can be used as an alternative to the setup tool and is the only method supported for BIS 6.7 releases. Initial installation, service updates (parallel and rolling), extend installation and repair installations can be done with the Web Installer or BIS Landscape Manager. This Installation Server is also used for migrating between 6.5 and 6.7 major product lines, see the section below.

For B2B Portal the following system landscape is possible:

- *Shared-Machine*
  B2B Portal is installed on the same server machine as BIS 6 instances, but using a separate installation directory, instance ID and a separate database schema. Should be installed in different system.
- *Dedicated-Machine*
  B2B Portal is installed on a dedicated machine and a separate database/schema. You need to use a different instanceID. Should be installed in different system.
- *Distributed installation* with multiple B2B Portal instances running in a cluster is **not** supported because of technical restrictions.

Use the BIS Developer Studio installation media to install the BIS Developer Studio (with the Process Designer and BIS Mapping Designer) or the BIC Mapping Designer on a local workstation. This process is described in the **BIS Developer Studio Installation** and **BIC Mapping Designer Installation** manuals (included in the BIS

6 documentation). Generally you can use the latest Developer studio installation media (maintenance release) with BIS. The BIS Developer Studio is also compatible with the last 10 service packs.

End of Support Notices

According to the Business Integration Suite Lifecycle Policy document, the End-of-Maintenance (end of P2 Support phase) for BIS 6.5 is the end of June 2023. We plan to ship the last 6.5.2 SP110 Revision 14 (including the last Java 8 Update) in April 2023. The Java 8 update in July 2023 will be provided as a final hotfix (not a revision).

To follow-up previous deprecation messages, we will remove the Java WebStart (JNLP) function for the BIS Front-end from future 6.7 service updates starting with the January 2023 version. For customers who did not migrate to the Portal Web applications BIS Navigator and BIS Monitoring, you will still be able to use the stand-alone BIS Front-end download feature, until the backend is removed as well (no ETA yet).

$\boxed{I}$ **Note**: BIS 6.7.126 is the minimum version that should have Web replacements for most use-cases.

The code signing certificate used to sign the Java Web Start resources (program libraries shipped by SEEBURGER for the WebStart BIS Front-end) will expire in June 2023. After this date, it will no longer be possible to provide newly signed libraries with hotfixes or new features. This is shortly before the end of maintenance; should the need arise, you can re-sign the resources with your own trusted certificates. Due to the used time-stamping technology, the JNLP Front-ends for existing versions should continue to work.

Reminder: The BIS 6.7.134 release (scheduled for December 2023) will be the last version that can be reached from a 6.7.122 Revision intermediate (for rolling/online updates). Therefore, January 2023 will see the final 6.7.122 Revision and also end the opportunity to update a 6.5.2 SP110 online. You will still be able to offline update with larger version jumps. "(Offline)" means - update requires the shutdown of the system.

Migrations to 6.7 and Minimum Update Versions

The following table lists the versions required for a migration and for the minimum next version to use after the migration. This is based on the Hotfixes included in the revision, to ensure you do not upgrade to a version which does not contain all your hotfixes from the revision. The table also lists the next quarterly service update, which would be a good candidate for your planned update schedule. Mentioned future versions might not be available at the time of the publishing of this revision.

⚠️ **Warning**: This table does only apply to a stock-revision. If you have installed hotfixes on top of the revision you need to manually verify that all further Hotfixes are actually fixed in the version you plan to update to.

Installed Version	Migration Target	Minimum Next Update	Recommended Next Update
6.5.2 SP110 Revision 12	6.7.110 Revision 12	(offline) 6.7.130, (online) 6.7.122 Revision 4 (if requested)	(offline) 6.7.130
6.5.2 SP110 Revision 11	6.7.110 Revision 11	6.7.122 Revision 3, (offline) 6.7.128	6.7.122 Revision 3
6.5.2 SP110 Revision 10	6.7.110 Revision 10	6.7.122 Revision 2, (offline) 6.7.124	6.7.122 Revision 2
6.5.2 SP110 Revision 9	6.7.110 Revision 9	6.7.120, 6.7.118 Revision 3	6.7.122 or 6.7.118 Revision 3
6.5.2 SP110 Revision 7	6.7.110 Revision 7	6.7.119, 6.7.118 Revision 2	6.7.122 or 6.7.118 Revision 2

Installed Version	Migration Target	Minimum Next Update	Recommended Next Update
6.5.2 SP110 Revision 6	6.7.110 Revision 6	6.7.118	6.7.118
6.5.2 SP110 Revision 5	6.7.110 Revision 5	6.7.118	6.7.118
6.5.2 SP110 Revision 4	6.7.110 Revision 4	6.7.116	6.7.118
6.5.2 SP110 Revision 3	6.7.110 Revision 3	6.7.114	6.7.114
6.5.2 SP110 Revision 2	6.7.110 Revision 2	6.7.113	6.7.114
6.5.2 SP110	6.7.110	6.7.111	6.7.114

We also plan to provide a 6.5.2 SP110 Revision 13, which contains the scheduled OpenJDK quarterly security (October) update.

In accordance with our product lifecycle policy, we aim to give customers an upgrade path from 6.5 to 6.7. This allows a rolling update (as long as your system is actually installed for active/active operations) with no requirement for downtime. This is reflected in the above table.

"(if requested)" means the Revision is scheduled for later dates, but you can request one with proper justification (Revision 8 was not made generally available).

The BIS 6.7.134 release (scheduled for December 2023) will be the last version that can be reached from a 6.7.122 Revision intermediate (for rolling/online updates). Therefore, January 2023 will see the final 6.7.122 Revision and also end the opportunity to update a 6.5.2 SP110 online. You will still be able to offline update with larger version jumps. "(Offline)" means - update requires shutdown of the system.

Restrictions of B2B Portal Release

This section is about articles for the deprecated B2BPortal role in BIS 6.5. Keep in mind that future product development will happen on the Web App Framework (codename portal7) only.

This release contains a number of modules; however, *production status* is only assigned to the following modules:

Article ID	Name	Status (6.5.2)
6000P	B2B Portal (includes 10 User License and DEMAT company add-on)	released
6001P	B2B Portal, 30 User License	released
6002P	B2B Portal, 50 User License	released
6003P	B2B Portal, 100 User License	released
6004P	B2B Portal, 250 User License	released
6005P	B2B Portal, 500 User License	released
6006P	B2B Portal, 1000 User License	released
6009P	B2B Portal, Unlimited User License	released
6020P	Master Data Management	released
6030P	Changelog	released
6040P	Forms Manager	retired
6100P	Message Tracking	released
6105P	Message Search	released

Article ID	Name	Status (6.5.2)
6110P	Target Monitoring	released
6130P	Reporting Framework	released
6135P	Message Tracking Cockpit	released
6200P	Task Manager	released*
6300P	Data Distribution Center	retired
6301P	Data Distribution Center with FTP server add-on	retired
6500P	Rollout Portal	beta

Product Combination Matrix

BIS: You are able to use this version of B2B Portal with the following BIS release:

- BIS 6.5.2 SP110
- BIS 6.7.110

B2B Portal: You are able to use this version of BIS with the following B2B Portal release:

- B2B Portal 6.5.2 SP110 (recommended! The installation media also contains this version)
- B2B Portal 6.5.2 (all former Service Packs of this release)
- B2B Portal 6.3.5 Q4

> **Note**: Certain BIS 6 components writing into the *Message Tracking* database tables like BIS MT Client, BIC Mappings or BSH scripts need to be set up to use the proper *DATASOURCE*. This needs to be done manually on the BIS 6 side. For details, please refer to the documentation of these components.

> **Note**: If you install both, BIS 6 and B2B Portal systems, make sure the instance IDs are unique. The installation will generate separate systems and separate database schema but it is recommended to keep instance (and group) IDs unique in a single tier (production) of your landscape.

> **Note**: The Task Manager Integration (TMI) shipped with BIS which integrates BIS 6.7 with BIS 6.5.2 Portal Task Manager will be discontinued when BIS 6.5.2 moves from support phase P2 to P3.

3 Installation Requirements

3.1 Minimum Hardware Requirements

Server: BIS 6/B2B Portal	• 2 Cores (>2GHz), 8GB RAM (see sizing guide for productive installations) • Min. 36 GB disk space for the application plus additional disk space for data. • Dedicated Database Server or additional 2 Cores, 4GB RAM if database is on same machine
Clients: BIS 6 Developer Studio Web UI (Browser) BIS 6 Front-end (Webstart / Download)	• A standard office computer with at least two cores and 4 GB RAM • Screen resolution minimum: 1280x800x24 • Min. 20 GB free disk space on the installation drive for installation of this software. • If you intend to run other applications in parallel, you need to increase your resources accordingly. • Browser and Operating System according to following sections Administrative requirements (for installation): • For machine-wide (system) installation the installation user must be member of the local administrator group. • The Developer Studio might not be installed in the applications directory (Program Files). • User specific installation is also possible using User Account Control (UAC).
BIS SecureProxy instances	The minimum hardware requirements for one Relay / Fence are: • CPU: *Intel Pentium* (or a compliant) CPU, 2 cores, 3 GHz • RAM: 2 GB • Disk space: 200 MB for the installation

Note: Depending on the amount of data to be processed, additional requirements may apply. For data transmission (DT) components, additional requirements may apply. For technical details of the different data transfer adapters, refer to the *Data Transmission Guide* included in the BIS 6 documentation.

Note: The hardware requirements given are minimum requirements. It is strongly recommended to plan for more available RAM, faster CPU and higher screen resolution.

Note: A specific *Hardware Scaling* document (included in the BIS 6 documentation) provides additional information.

3.2 Minimum Software Requirements

System software requirements for Unix- and Linux-based systems:

- Linux: Check OS Compatibility Matrix (page 9)
- POSIX Shell as /bin/sh
- X-Windows system for the installer (*Xlibs* installed, *X-Server* connection available)

Both BIS 6 and B2B Portal also require a system database (see below).

> **Note**: If you want to use a server or operating system virtualization environment (*VMware*, *Xen*, *Hyper-V*, *Virtual Iron*, xVM, VZ, containers, etc.), check the section Virtualization (page 17) for details. Ensure that your "guest" operating system vendor supports your platform and hardware.

3.2.1 Web Browser

For best usability and security we recommend to always use modern browsers. SEEBURGER regularly tests the compatibility of its applications with the most common Web Browsers, typically identified by market shares and usage statistics. We successfully tested with the following browsers:

- Mozilla Firefox - Extended Support Release (ESR), on Windows Client (Version 68.x)
- Google Chrome - stable channel, on Windows Client (Version 72 or later)
- Microsoft Internet Explorer 10 - 11 (de-support in favor of MS Edge planned)
- Microsoft Edge - stable channel, on Windows Client, Chromium based (Version 79.x or later)

Note, that browsers which are not listed here may also be compatible with our applications.

3.2.2 Java Runtime

3.2.2.1 JRE Client Deployment

For the BIS Front-end (Java Application) either the stand-alone installation archive (includes Java 11) must be used or a compatible Java Web Start installation be present. For details, see KB Article 20141114-0450.

> **Note**: The Java Web Start method (JNLP) of starting the Front-end will no longer be available after June 2023 (for 6.7 and 6.5 updates). Until this time it can be used together with a (customer maintained/licensed) Java WebStart runtime based on Java 8.

SEEBURGER Developer Studio and SEEBURGER BIC Mapping Designer ship a Java runtime for Microsoft Windows operating systems (64-bit versions for AMD/Intel x64 compatible platforms).

3.2.2.2 JRE Server Runtime

In the installation package we ship an *Java runtime* for Microsoft Windows and Linux operating systems (in 64-bit versions for Intel x64 compatible platforms).

For other platforms, the *Java Development Kit* must be installed (*copy* or *symlink*) in the `<BIS6_HOME>/runtime/jvm64/` directory.

Note: The vendor for the Zulu Java runtime environment (Azul) announced it will no longer support the OpenJSSE and OldSunJSSE TLS providers. If you are using any of those (`-XX:+UseOpenJSSE` or `-XX:`

`+UseOldJSSE`) you will need to migrate to the standard SunJSSE (which supports TLSv1.3) implementation and remove the options..

See the following tables for Java requirements per Operating Environment:

OS	Java Runtime
Linux (x64), Microsoft Windows (x64)	The JVM shipped with the installation is the only version supported.
Solaris[2] (x64, SPARC64)	(not supported on BIS 6.7) Manually install same JVM version as included (Windows/Linux) JDK.
IBM AIX[2] (Power)	(not supported on BIS 6.7) minimum: IBM JDK 8 SR5 FP26[1]

[1] For security reasons SEEBURGER always recommends to update to the latest approved Java version.

[2] Only for updates of existing installations.

Note: SEEBURGER does not support running BIS instances with an Third-party instrumentation agent in the Java VM. This means SEEBURGER is not responsible for providing interoperability fixes or do testing. In case of support incidents (especially stability or performance issues) SEEBURGER might ask you to remove the instrumentation, if it is suspected to contribute to the issue.

3.2.2.2.1 Platform-Dependent Modules

Some modules (e.g. *IDoc Connector*, *EdifactSecurity*, *VCOM Integration* or the local ISDN CAPI access) are restricted to specific operating system platforms. Please consult the related manuals for detailed information.

3.3 OS Compatibility Matrix

The following tables list the supported operating systems and hardware architecture for the corresponding system components:

Installation Type	Description
Instance	BIS Instance (Any roles: PE, AE, AS, UMS, B2BPortal)
Client	Can be used to install the *SEEBURGER Developer Studio*, the *SEEBURGER BIC Mapping Designer*, and to run the BIS Front-end or Web Browser.
Express Server	Works as All-In-One BIS Instance. Can be used in a production environment with small data volume. This means: • Max. volume (number of EDI transactions (UNH) per day) = 100 Typically installed by article S7500B6 (BIS:Express Standard EDI Solution - Basis).
BIS Landscape Manager	Installation Server (Web Installer or BIS Landscaper Manager) can be installed on a subset of supported BIS platforms but can deploy to all supported target platforms.
Portal 6	Installation of B2B Portal

Installation Type	Description
BSP	BIS Secure Proxy Instances (ControlServer, Fence or Relay)

		BIS Landscape Manager	BIS				BIS FX	BSP	BISLink		
			Instance	Client	Express Server	Portal 6	BIS File Exchange	BIS Secure Proxy	BIS Link	BIS Link Manager	AS2:Connect
Windows Server 2012 [*3)]	x64 (64 Bit)	-	-	-	-	-	-	-	x	-	x
Windows Server 2012 R2 [*3)]	x64 (64 Bit)	x	x	-	x	x	x	x	x	x	x
Windows Server 2016 [*2)]	x64 (64 Bit)	x	x	-	x	x	x	x	x	x	x
Windows Server 2019	x64 (64 Bit)	x	x	-	x	x	x	x	x	x	x
Windows Server 2022 [*4)]	x64 (64 Bit)	x	x	-	-	-	x	x	(Q13)	(Q13)	(Q13)
Windows 7 (not Home Editions) [*3)]	x64 (64 Bit)	-	-	x	x	-	-	-	x	-	x
Windows 8 (not Home Editions) [*3)]	x64 (64 Bit)	-	-	x	x	-	-	-	x	-	x
Windows 8.1 (not RT Editions) [*2)]	x64 (64 Bit)	-	-	x	x	-	-	-	x	-	x
Windows 10 (not Home Editions)	x64 (64 Bit)	-	-	x	x	-	-	-	x	-	x
Red Hat Enterprise Linux 6 [*3)]	x64 (64 Bit)	x	x	-	-	x	x	x	x	x	x
Red Hat Enterprise Linux 7 [*2)]	x64 (64 Bit)	x	x	-	-	x	x	x	x	x	x
Red Hat Enterprise Linux 8	x64 (64 Bit)	x	x	-	-	x	x	x	x	x	x
SUSE Linux Enterprise Server 11 SP4 [*3)]	x64 (64 Bit)	-	x	-	-	x	x	x	x	x	x
SUSE Linux Enterprise Server 12 [*2)]	x64 (64 Bit)	x	x	-	-	x	x	x	x	x	x
SUSE Linux Enterprise Server 15 SP3	x64 (64 Bit)	x	x	-	-	x	x	x	x	x	x
Oracle Enterprise Linux 6 [*3)]	x64 (64 Bit)	-	x	-	-	x	x	x	x	x	x
Oracle Enterprise Linux 7 [*2)]	x64 (64 Bit)	x	x	-	-	x	x	x	x	x	x
Oracle Enterprise Linux 8	x64 (64 Bit)	x	x	-	-	x	x	x	x	x	x
Oracle Solaris 11 [*1)]	x64 (64 Bit)	-	o	-	-	o	-	-	x	o	-
Oracle Solaris 11 [*1)]	SPARC (64 Bit)	-	o	-	-	o	-	-	-	-	-
IBM AIX (6.1, 7.1) [*1)]	POWER6,7,8	-	x	-	-	x	-	-	x	x	-
IBM AIX 7.2 [*1)]	POWER6,7,8	-	o	-	-	o	-	-	x	x	-

⚠️ [*1)] AIX, Solaris, and HPUX will not be supported as platforms for BIS 6.7. You need to transfer your instances to Linux or Windows before you can run the migration process. We will continue to provide updates for BIS 6.5 on AIX and Solaris systems till end of maintenance for the BIS 6.5 product line. Not supported for new installations.

⚠️ [*2)] Not supported for new installations. BIS 6.5.2 SP110 Revisions or 6.7 migrations are supported until the end of P2 phase according to BIS Product Lifecycle document. BIS 6.7 service updates (until end of extended support for the operating system) have limited support.

⚠️ [*3)] Not supported for new installations or migrations. Please update the machine to the most recent supported operating system.

⚠️ *4) Windows Server 2022 as an operating system for BIS 6.5.2SP110 (since Rev10) is only supported for the short duration required to migrate to 6.7.110 (same Revision). New Installations on this operating system version are only supported with newer BIS 6.7 releases which support this new platform.

x = supported | o = on request | - = not supported | Q13 = with the 6.5.2Q13 release of BIS Link

I **Note**: Windows Server 2008 R2, Windows Server 2012 (R2); Windows 7, Windows 8 and Windows 8.1; SLES 11 and OEL 6 are scheduled to be de-supported and must not be used for new installations. Azul has announced no support or update of the Zulu 8 Java runtime on RHEL 6 in January 2022. If you require regular updates we recommend to switch to a supported platform.

• The combination of Instances on different platforms is supported, the baseline security version of all JVMs should match.

- Updates on previously listed operating systems are supported, as long as the operating system is mainstream supported by its vendor and Java vendor lists it as supported.
- Other Linux platform architectures (especially ARM/aarch64, x86, IA64, power, system-z) or distributions are not supported.

- **RedHat Enterprise Linux** support details (RedHat Enterprise Linux Lifecycle):
  - Vendor support for RHEL7 is reaching end of maintenance in June 2024, after this date service updates are no longer supported. New installations with this OS are no longer supported. SEEBURGER recommends customers to upgrade no later than June 2022.
  - Vendor support for RHEL6 reached end of maintenance in November 2020, service updates or new installations are no longer supported.
  - Azul has announced no support or update of the Zulu Java runtime on RHEL 6 since January 2022. If you require regular updates we recommend to switch to a supported platform.
  - RHEL Stream, Fedora OS or CentOS are not supported.
- **Oracle Enterprise Linux** support details (Oracle Linux Lifetime Support Policy):
  - Vendor support for OEL7 is reaching end of premiere support in July 2024, after this date service updates are no longer supported. New installations with this OS are no longer supported. SEEBURGER recommends customers to upgrade no later than July 2022.
  - Vendor support for OEL6 reached end of premiere support in March 2021, service updates or new installations are no longer supported.
  - Azul has announced no support or update of the Zulu Java runtime on RHEL 6 since January 2022. If you require regular updates we recommend to switch to a supported platform.

- There is a known issue with the system OpenSSH component on **SuSE Linux Enterprise Server 15** (GM, SP1 - SP3), which leads to sporadic aborts, crashes and timeouts when installing or updating the software with the *Installation Server*. Make sure you update your `openssh-server` package to the latest version (must include fix for bsc#1174162 openssh-7.1p2-audit-race-condition.patch). For example version `7.9p1-6.22.1` or newer for 15 SP1. `8.1p1-5.9.1` or newer for 15 SP2 and `8.4p1-4.1` or newer for 15 SP3..

- **Microsoft Windows Server** support details:
  - Vendor support for Windows Server 2016 is reaching end of extended support in January 2027, after this date service updates are no longer supported. New installations with this OS are no longer supported. SEEBURGER recommends customers to upgrade no later than January 2025.
  - It is allowed to upgrade an existing BIS 6.5.2SP110Rev10 installation to Windows Server 2022 for the purpose of migrating it to 6.7.110rev10 and then further updates. This does not apply to B2BPortal instances or BIS Express installations.
  - Support for Microsoft Windows Server only with installed "Desktop Experience" for Standard- or Data Center editions.
  - The Foundation-, Essentials-, Small Business-, Web Server-, Storage Server-, etc. editions of Microsoft Windows Server are not certified or supported.
  - Standard support agreements do not include support for Microsoft Nano Server, Windows Server Core and Windows Container installation environments.
  - There is no specific testing for the Semi-Annual releases (SAC) of Windows Server, only the specific LTSC releases are certified.
  - Mainstream Support for Windows Server 2012, 2012 R2 and 2016 has ended. SEEBURGER extends support for these operating systems for BIS 6.5.2 SP110 till the end of the P2 support phase for BIS 6.5 (July 2023). You need to have extended vendor support from Microsoft for these installations.
  - For migration to BIS 6.7, make sure to update the Windows Server to the supported 2019 or 2022 version first.
  - Other Windows platform architectures (especially x86, IA64, ARM) are not supported.

> **I** **Note**: SEEBURGER does not support running BIS instances with an on-access (background) anti-virus or malware scanner (especially on Windows). Degraded performance and unstable system operations can be caused by those products. At least exclude the whole installation directory with sub folders and all additional accessed directories (MT root, hotfolder) from the scanner monitoring and heuristics. This is also true for the database server system. It may be required to re-start the system after modification of the virus scan software configuration.

3.4 DB Compatibility Matrix

3.4.1 System Database

Please ensure that the database management system for the system database is a compatible version and properly configured.

> **I** The **BIS System Database Manual** lists requirements and pre-requisites which needs to be checked before installation or upgrade. If you are experiencing any difficulties with the system database, you can refer to the *Troubleshooting* sections there.

> **I** Information on released public cloud databases, e.g., AWS, Azure, Google Cloud, can be found in the Cloud Deployments (page 16) chapter.

The database lies in the sole responsibility of the customer. This includes (but is not limited to):

- Installation, configuration and best practice database software updates.
- Administration and support. Capacity monitoring and planning.
- Ensuring availability and monitoring for corruptions and other errors.
- Regular backup.

Database	Min.Level	BIS		BIS File Exchange	BIS Link Manager [*2)]
		6.5	6.7		
Oracle Database 12c Release 1 [*3)]	12.1.0.2	x	-	x	x
Oracle Database 12c Release 2 [*3)]	12.2.0.1	x	-	x	x
Oracle Database 18c [*3)]	18.1.0.0	x	-	x	x
Oracle Database 19c	19.3.0.0	x		x	x
Microsoft SQL Server 2014 [*3)]	SP3	x	-	x	x
Microsoft SQL Server 2014 Express Edition [*1) *3)]		x	-		x
Microsoft SQL Server 2016 [*3)]	SP2	x	(x)	x	x
Microsoft SQL Server 2016 Express Edition [*1)]		x	(x)		x
Microsoft SQL Server 2017	most recent CU	x	(x)	x	x
Microsoft SQL Server 2019	CU2	x		x	x
Microsoft SQL Server 2019 Express Edition [*1)]		x			x
PostgreSQL 10	10.6	-	x [*4)]	x	x
PostgreSQL 11	11.1	-	x [*4)]	x	x
PostgreSQL 12	12.5	-	-	x	-
embedded database				x	

⚠ [*1)] On BIS Systems: Express Editions are only supported for scenarios with limited (small) volume because of license restrictions (scaling and sizing limitations).

⚠ [*2)] When using non English words and symbols in BIS Link Manager configuration data not only its database must be Unicode but the BIS database must be Unicode too. Otherwise, there will be either unpredictable results or data corruption and errors.

⚠ [*3)] Only for installing updates on pre-existing installations. We do not support installing new systems with deprecated database versions. Installing new BIS 6.5.2 systems is also not supported. Entries marked as (x) are valid for this revision and migrations but might not be supported in future service updates of 6.7.

⚠ [*4)] Using PostgreSQL as a system database for BIS is generally available since 6.7.92 and requires an additional license 1226B6.

Oracle Database 11.2 Extended Support ended in December 2020. We will not support updates of existing SEEBURGER installations on this database version. We do not support new installations with this version or migrations to 6.7 on this database version. Oracle recommends to update to 19c.

Oracle Database 12.2 Error Correction / Patching ended Nov. 2020. We will not support updates of existing SEEBURGER installations on this database version. We do not support new installations with this version or migrations to 6.7 on this database version. Oracle recommends to update to 19c.

Oracle Database 18c Error Correction / Patching ended in June 2021. We will not support updates of existing SEEBURGER installations on this database version. We do not support new installations with this version or migrations to 6.7 on this database version. Oracle recommends to update to 19c.

Oracle Database 20c is not planned to be certified since Oracle skipped the on-premise release. Oracle Database 21c is not planned to be certified since Oracle announced it as innovation release. Future long term

support versions are planned to be supported for the most recent BIS major release (6.7) after Oracle ships the on-premise server releases on Linux and Windows.

Microsoft SQL Server 2014 is end of mainstream support. We will not support updates of existing SEEBURGER installations on this database. We do not support new installations with this version or migrations to 6.7 on this database version, please update to SQL Server 2019.

Microsoft SQL Server 2016 is end mainstream support since July 2021. We will not support updates of existing SEEBURGER installations on this database. We do not support new installations with this version or migrations to 6.7 on this database version, please update to SQL Server 2019.

Microsoft SQL Server 2017 mainstream support end date is Nov. 2022. We will not support updates of existing SEEBURGER installations on this database after this date. Further 6.7 service updates will not be supported for this version, please update to SQL Server 2019.

Microsoft SQL Server 2019 mainstream support end date is July 2025. We will not support updates of existing SEEBURGER installations on this database after this date. Starting with Revision 10 of BIS 6.5.2 SP110 you can upgrade an existing installation to SQL Server 2019.

Microsoft SQL Server for BIS system database is supported in **Standard Edition** and **Enterprise Edition**. For low volume or demo/test purposes **Express Edition** can be used.

⚠️ By default, Microsoft SQL Server expects a password with minimum complexity. Please be sure to specify a corresponding password when defining your database properties. A non-complex password will cause an error in the course of database creation.

⚠️ BIS and BIS FileExchange require setting ON the "READ_COMMITTED_SNAPSHOT" isolation level for Microsoft SQL Server.

3.4.2 DB Driver

The Customer is responsible for licensing third-party components (database and optionally drivers) and for providing the installation media or download archives. The following table specifies, which products ship third party drivers and which require externally provided software to complete the installation.

	BIS	BIS File Exchange	BIS Link Manager
Oracle JDBC Driver [*1]	x	c	c
jTDS driver for Microsoft SQL [*2]	x		e
Microsoft JDBC Driver for SQL Server [*3] [*4]	x	c	
PostgreSQL JDBC Driver (pgjdbc)	x	-	x

x = embedded (shipped with product) | c = must be provided by customer | - = not supported

3.4.2.1 Oracle Database Client

[1] **SEEBURGER BIS**: Since BIS 6.5.2SP87 / 6.7.87, the Oracle JDBC driver is shipped with the BIS installation and updates. Only the provided library is supported, and you must not change it. See systeminfo.log written on each startup for information on the used driver version.

For **BIS FileExchange** and **BIS Link Manager**, you need to manually provide *ojdbc8.jar* from *Oracle.*

3.4.2.2 Microsoft SQL Server Client

[2] A corresponding JDBC driver is provided with the **SEEBURGER BIS** and **BIS Link Manager** installation. Only the provided library is supported, and you must not change it. See systeminfo.log written on each startup for information on the used driver version.

> **Ⅰ** **Note**: With `jTDS` driver, it is not possible to support multiple subnets for availability group listeners. Also, it is not possible to connect to reliable Azure SQL Database.

[3] Only for BIS 6.7: This driver is embedded as of 6.7.106 but is not activated. Installing a BIS 6.7 in Azure Cloud is only possible using this driver. For more information on the driver's configuration, refer to the section "Driver Selection" in the *System Databases* manual.

[4] Please refer to chapter "Microsoft SQL Server Database" from *BIS File Exchange Installation and Administration Guide* for more information on how to find the appropriate Microsoft JDBC driver for **BIS File Exchange** and how to include it into the installation.

3.4.2.3 PostgreSQL

The PostgreSQL JDBC driver needed for **SEEBURGER BIS** is shipped with the 6.7 installation. Only the provided library is supported, and you must not change it. See systeminfo.log written on each startup for information on the used driver version.

3.5 BSP Compatibility Matrix

			BSP	
			6.7.107 or newer*	
BIS	6.5.2	SP31 - SP41	requires B6-652-523	
		SP42 - SP110		
	6.7	6.7.77 or newer		
	* Integration of a new BIS System with BSP is only possible for BIS 6.7.100 or newer.			
BIS FX	6.5.2	SP47	requires BISFX-652SP47-049	
		SP48 or newer		
	* Integration of a new BISFX System with BSP is only possible for BIS FX SP101 or newer.			
BIS Link Manager	6.5.1	Q4 or newer		
	* Integration of a new BIS Link Manager with BSP is only possible for BIS LinkManager Q12 or newer.			

(green)	Supported

If your version is not listed here please contact SEEBURGER Support

3.6 Cloud Deployments

SEEBURGER BIS is generally supported in (public) cloud environments (IaaS) as long as the virtualization technology is compatible, and the operating system of the guest instances is supported by SEEBURGER and the OS vendor supports the chosen environment.

However, some additional cloud services (for example, database service for system database) or other deployment types are supported.

This is independent of general protocols or service-specific adapters, which can also be used to connect to cloud services as part of an integration project.

Database Service for System Database

The following Cloud Services are certified to be used for the BIS 6.7 System Database.
SEEBURGER tested BIS landscape configurations in single and multi-instances. BIS processes, channels, mappings, standard solutions (B2B, MFT), and custom solutions are functional and working. Please be aware that certain landscapes and features might greatly impact the performance and even the reliability of the service.

Not all options are tested or recommended by SEEBURGER. If you plan to install a critical, large, or dynamic environment, it is recommended to involve SEEBURGER consulting in the planning and validation phase.

Make sure your *support and maintenance agreement* with SEEBURGER explicitly includes support on these cloud environments:

Further services are about to be certified in future service update releases.

⚠ SEEBURGER works on certifying managed platform offerings for databases (like Azure SQL Database, Google Cloud SQL, and Oracle Autonomous Database/ATP). These are not yet supported for use in the BIS system database. There are known issues to be resolved, as listed below.

Amazon AWS

- Amazon AWS RDS for Microsoft SQL Server (since BIS 6.7.94)
- Amazon AWS RDS for Oracle Database (since BIS 6.7.94)
- Amazon AWS RDS for PostgreSQL (since BIS 6.7.94)
- Amazon AWS Aurora with PostgreSQL compatibility (since BIS 6.7.94)

See the AWS specific installation instructions in the *System Database manual*.

Microsoft Azure

- Azure SQL Database (since BIS 6.7.106)

⚠ The *Microsoft Azure* managed database service *Azure SQL Database* is only released in combination with the Microsoft JDBC Driver for SQL Server.
For more information, refer to the section "Driver Selection" in the *System Databases* manual.

not supported:

- Azure SQL Managed Instance
- Azure SQL Server on VM

See the Azure specific installation instructions in the current Changelog document.

Google Cloud

- Google Cloud managed database service for SQL Server (since 6.7.102)

The *Google Cloud* managed database service *Cloud SQL for PostgreSQL* cannot be used because of limited administrative permissions which do not allow to set up required system objects.

3.7 Virtualization

Running SEEBURGER solutions on virtualized platforms (if supported by OS and Hardware Vendors) is possible. SEEBURGER Support might determine that a problem is caused by virtualization incompatibilities in which case fixes might only be provided if it can be reproduced without virtualization.

4 BIS 6.7 Migration Guide

4.1 Overview

In the following chapters, we describe what needs to be done to achieve a successful migration from BIS 6.5 to the BIS 6.7 major version.

Some restrictions (page 26) and prerequisites (page 30) apply.

You should plan your migrations now: BIS 6.5 has reached the terminal service pack, and it is in the limited support phase P2 with announced end date in July 2023. See the BIS Suite Product Lifecycle document, which is regularly refreshed on the SEEBURGER Knowledge base. The final revision for BIS 6.5.2 SP110 is currently planned for April 2023.

Migration to 6.7 is done with the help of the Installation Server (Web Installer or BIS Landscape Manager) by first updating to the latest revision of the BIS 6.5.2 SP110 branch and then side-stepping to the same revision in the BIS 6.7.110 major version with the "migrate" function. As a migration prerequisite, you need to switch from Smarti to UMS user management and from WLH to AQM queue manager. After this migration step, you can online-update to 6.7.122 latest revision. See the minimum update-version as specified in the release notes.

The BIS 6.5 documentation and update release notes are only distributed in the latest 6.5.2 SP110 revision, not in subsequent 6.7 service updates. The BIS 6.7 Migration Guide (this document) is outdated in the 6.5.2 SP110 Revision media, but can be found in the latest 6.5.2 SP110 Revision release notes as its own chapter. To get a stand-alone version, it is recommended to check the SEEBURGER Service Desk KB Portal for the latest BIS 6.7 documentation bundle and use the PDF from this version.

4.2 BIS 6.7 Introduction Notes

SEEBURGER BIS 6.7 is the new major release of the BIS6 product.

The following diagram describes the changes in version numbering. For more information, see "Release Numbering Schema" in Chapter 3, *SEEBURGER Business Integration Suite, Product Life Cycle* manual available in the Service Desk portal for registered customers.

BIS **6 . 5 . 2 SPxx**

- Product Release
- Major Release
- Minor Release
- Service Pack Number

BIS **6 . 7 . xx**

- Product Release
- Major Release
- Service Update Number
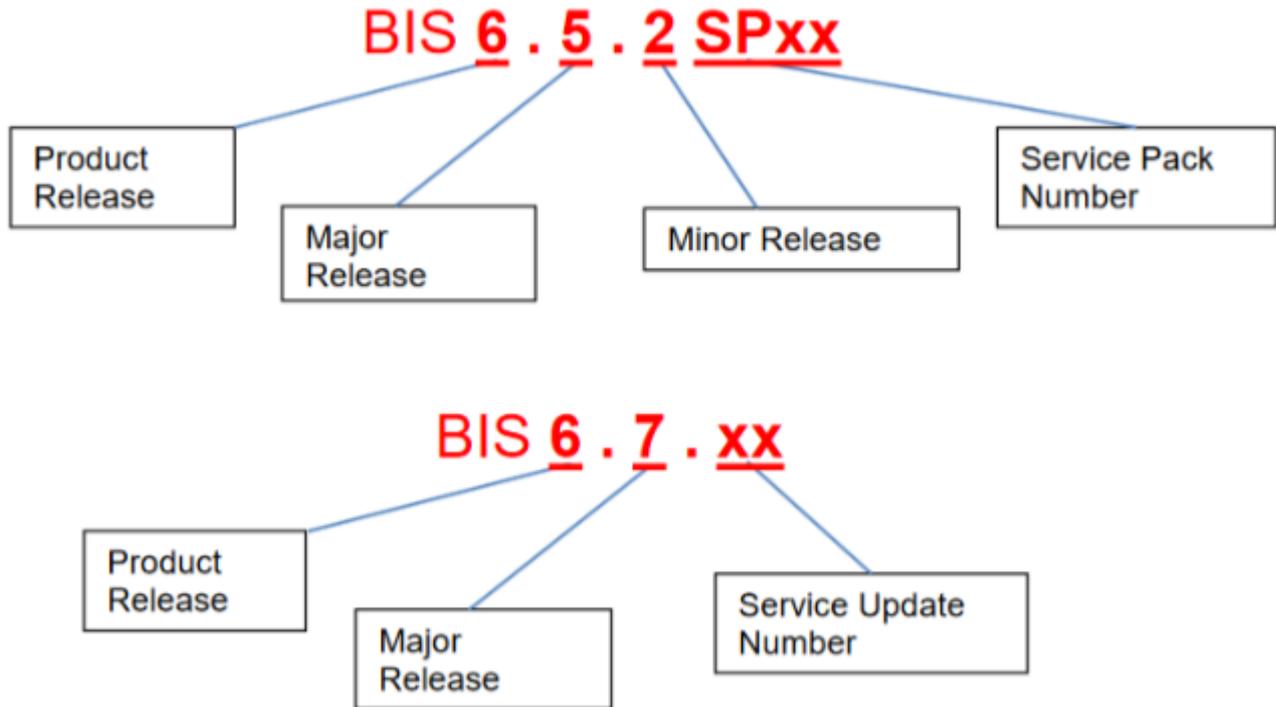
With service update 77 (BIS 6.5.2SP77 / BIS 6.7.77), we introduced a new major service line and provided updates for both product lines simultaneously (until the BIS 6.5.2 major release entered Support & Maintenance Phase 2 - Restricted Software Update).

For more information about support and maintenance road-map, see "Software Release Life Cycle" in Chapter 5, *SEEBURGER Business Integration Suite, Product Life Cycle* manual available in the Service Desk portal for registered customers.

HY/Release – Service Line	1.Hy 2022	2.Hy 2022	1.Hy 2023	2.Hy 2023	1.Hy 2024	2.Hy 2024	1.Hy 2025	2.Hy 2025	1.Hy 2026	2.Hy 2026	1.Hy 2027	2.Hy 2027
Business Integration Server Rel. 5 (BIS5) for Windows (Product Release)												
Rel. 5.6.2												
Business Integration Suite Release 6 (BIS6) for Windows/Unix (Product Release)												
*Rel. 6.5.2**)*	P2	P2	P2	P3	P3	P3	P3					
Rel. 6.7	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1

*) Only for 6.3.5Q4 with latest patch! Software update service for 6.3.5Q1-Q3 ended 2014-12-31
**) P2 / P3 is offered for BIS 6.5.2SP110 (the last SP issued) of BIS 6.5.2 only.

Please be aware that some (temporary) limitations apply for migrations starting from existing BIS 6.5.2 to BIS 6.7 installations.

The following sections briefly describes the new major release, the migration process, differences and limitations.

Please see the **BIS 6.7 Migration Guide** (next chapter) for further details. A version of the guide is included in the BIS 6.5.2SP110 Revision release notes or can be extracted from the documentation collection download (SEEBURER Service Desk KB Portal) from the most current BIS 6.7 service update.

> ⓘ **Note**: The BIS 6.5.2 SP110 documentation is the last service update which contained references for 6.5 settings and update steps required for older versions.

4.2.1 What is new in BIS 6.7?

We envision pervasive integration will be the key requirement of the future. This will cover all integration styles. There is no single integration pattern (no silver bullet) which is able to cover all business and process requirements.

SEEBURGER provides a single platform where we will continue to focus on:

- Enhancing the user experience.
- Expanding integration capabilities in a secure, scalable and agile way.
- Providing to our customers a platform based on up-to-date software technology.
- Offering best practices, functionality and tools to be able to operate in a cost efficient way.
- Providing flexible deployment models, including running on public clouds and container services.

This will enable our existing and new customers to choose from all integration patterns and to combine and mix them freely. API based integration and API Management is an important part of it and our unique ability to combine it with the other integration patterns is our key differentiator.

Within this strategy, BIS 6.7 started as mostly a technology refresh. We switched to a new platform to be able to react even faster to technology demands. This will allow us to be better suited for the deployment and operations challenges of Automation, DevOps as well as Cloud or Container computing. The new platform comes with updated infrastructure components.

We have a single-source concept. Which means in the timeframe of P1 maintenance updates for BIS 6.5.2 we will use the same source code for both major release lines. The result of this method is that hotfixes generally can be applied to both service lines.

We introduce major new features in the BIS 6.7 service line. For example:

- starting with BIS 6.7.77 support for the PostgreSQL database system as the BIS system database introduced (additional license option).
- starting with BIS 6.7.100 the application server Java runtime uses Java 11

4.2.2 Differences to BIS 6.5.2

Despite the fact that much of the functional code is the same in 6.5.2 and 6.7 some differences exist which are motivated by changes in the underlying platform. We also refrained from porting obsolete or legacy components to the new platform and will replace them in the new major release.

Many of the new concepts like technical metrics, commercially supported Azul OpenJDK, BIS App Framework (Portal7), User Management Service (UMS), and Adapter Queue Manager are introduced with BIS 6.5.2 service packs and will evolve in both service lines. Not all new features and components will be available for the older BIS 6.5.2 major release.

If you are currently a BIS 6.5.2 user the following list will give you an idea of the technical changes you might observe (mostly in the area of maintenance and system operations):

- Installation and updates of BIS 6.7 no longer use the stand-alone setup program but will be managed with an Installation Server (Web Installer or BIS Landscape Manager).

- BIS 6.5 was based on an Application Server (JBoss AS 7.1). The BIS 6.7 product line uses a runtime based on Apache Karaf OSGi.
- BIS 6.5.2 supports user management with the classic Smarti Portal Framework or with the new UMS service of the BIS App Framework (Portal 7). With BIS 6.7 you can only use UMS user management and the Admin Server instances must run a PortalEngine role.
- Instead of the legacy WLH-queues a new Queue Manager (AQM) will be built into the Adapter Engines and does no longer require a dedicated singleton instance.
- A running BIS 6.7 instance consists only of a single Java VM process. No longer three JVM processes (HostController, ProcessController, Server). If you monitor the process list, make sure to no longer rely on the `-D[Server:ID]` argument in the command line of the running application server. The script which starts the process tree is `karaf{.bat}` not `run-bisas.{bat,sh}` anymore. The running main JAR file (visible on the command line) changes from jboss-modules.jar to a JVM with the main class `org.apache.karaf.main.Main`. There is no SSA agent JVM needed/existing in parallel.
- The start script `run-bisas.{bat,sh}` is no longer used. An equivalent command would be "`bin/karaf server`" or "`bin/karaf console`" to start the application server in the foreground. The `bin/bis start| stop|status` command is still available (with slightly modified output messages).
- If there is a service installation (for Windows service or Linux init/systemd scripts), remove it before migration and re-install it after an instance is migrated.
- Format and directory layout of the log-files changed a bit. The start directory of the BIS instance (which also contains dumps and GC logs) is moved to the fixed name `<BIS_HOME>/log/run/dir/*`
- Custom configuration for logfile sizes and rotations which have been configured in BIS 6.5 in `software/ logger.properties` are not migrated to BIS 6.7. Currently the logfiles have to be configured in the system config file `etc/org.ops4j.pax.logging.cfg`.
- Instead of external SSA agent/collector and batch scripts the OSGi console `diagnostic:run-profile` method is used in BIS 6.7 and recent 6.5.2 versions.
- The SeeConfig configuration in the database is exported/imported automatically into the `etc/shared/` directory for each instance. It uses a more user friendly INI-file format instead of XML (the keys are the same and existing configuration is automatically exported in INI format).
- For new installations you should start with the BIS Data Store as the new default method for attachment storage.
- The BIS 6.5.2 system property to turn on storing of attachments in the Data Store is migrated automatically to the BIS 6.7 SeeConfig setting in `etc/shared/{com.seeburger.conf.user=BISAS}/ com.seeburger.message.util.ini`:

```
[storage-server.usage] active = true
```

- Instances of Role Admin Server also must have the role Portal Engine (and there must be a role UMS available for the system).
- The license request application/form is not shipped with BIS 6.7 anymore. Instead we will provide the new License Manager cloud application to request license files. Existing 6.5 license files will not work with BIS 6.7 installations. Prerequisite for requesting a new license file is an update delivery note for your articles. See the *BIS License Management* manual for details on this procedure. Currently license requests need to be requested manually from SEEBURGER so we can track the customer rollout.
- Instead of the `software/register.{bat,sh}` command which was needed after making changes to configuration or installed components you would use the `bin/upate{.bat} -c` command in BIS 6.7.
- The initial instance configuration in the various `software/{ports,register,profile,vm}.properties` files is now stored in `etc/update.properties`.
- The BIS 6.7 installations no longer use RMI or JBoss Remoting - generally listening ports are the same, but some are obsolete in BIS 6.7. Some ports use different protocols as the underlying provider changes. See the *Networking Configuration* manual for details.
- The JMS provider used in *JBoss AS (HornetQ)* is replaced with its Open Source successor *Apache ActiveMQ Artemis.* Migration (and Rollback) will automatically convert existing JMS messages between the two storage engines (it is a good idea to have the system process most of the messages to avoid excessive conversion times).

- Hotfixes should be generally installed with the help of the Installation Server. However, it is also possible to install multiple hotfix files directly on each instance. Copy the hotfix files to `<BIS_HOME>/software/update/packages/hotfixes/`, shut down the instance and then run the `bin/update` command. This will apply the software changes and run diffDB. Hotfix files are the same for BIS 6.5.2 and BIS 6.7 (some are only needed for one or the other product line).

- The BIS 6.5 Application Server data-sources (connection pools like TX and XA for MASTER_ACCOUNT) are no longer used. All JDBC pooling for the system database is provided by the SEEBURGER PL Layer for the system accounts. This reduces the usage of idle connection, but might also require configuration to be adjusted to allow more connections in the unified pool.

- The set of default users and permissions shipped with the UMS instead of Smarti User management differ. The initial seeadmin user should not be used for day-to-day operation of the BIS system and therefore is not part of the groups which have access to the BIS Front-end.

- The default "Server:" version header of HTTP Listener changes from `Server: BIS6.5.2SPxx` to `Server: BIS6.7.xx` (You can still overwrite it in the extended listener settings with a `"server"` property.

- The PID file (containing the suspected process ID for the running application server instance) is moved from `<BIS_HOME>/log/run/<ID>/<ID>.pid` to `<BIS_HOME>/karaf.pid`.

- Some of the dedicated command line tools have been ported to server based OSGi commands (with better help, command- and parameter completion) in BIS 6.7.

- `software/propedit` is no longer supported in BIS 6.7 (use Installation Server instead)

- The `software/installdb/diffdb` command uses new parameters `"compare"` (replaces the argument less invocation) and `"apply"` (replaces `"exec"`).

- The 6.5 JMX Console Web Application is replaced by a "Technical Console" (based on hawt.io). It has a JMX- and OSGi console view and can be started from the Application Launcher for each instance. The management-listener URL no longer needs to be typed manually and the URL format has changed.

- The software composition in BIS 6.7 is described (with Karaf feature.xml) as graphs of versioned dependencies. To users, this is most visible in the Installation Server, if it incrementally synchronizes a new software release it is very fast as it only needs to download the changed files. This also means that hotfixes do not overwrite existing libraries but install new versions and configure the application runtime to use them (via `etc/overrides.properties` which gets emptied after each service update)

- The BIS manuals (PDF books) are not automatically extracted on the Admin Server instance file system. See the Getting Started (page 1) for a description how to access the documentation. The manuals describe 6.5 and 6.7 specifics.

- The (XA) Datasources registered in the JNDI tree of the application server are no longer provided. Scripts and mappings might need to be changed. This especially affects the older WorkflowDB and WorkflowDS entries as well as the `jboss:` and `jboss/` naming context.

- The Java 11 SimpleDateFormat might have different strings for specific locales (for example the SimpleDateFormat pattern `'E'` for short Weekday names results in `"Mo"` for Java 8 and `"Mo."` for Java 11 for the monday of german locale. This also affects the BIC `formatdate()` function.) If you need this pattern for a structured output, you might need to add/remove the truncation dot or have your own enumeration of acceptable values. Normally this pattern should only be used for display purposes.

- `software/version.{bat,sh}` is not available in BIS 6.7 (use `landscape:version-history/tt>`, `diagnostic:run-profile and the content of log/systeminfo.log instead`)

4.2.2.1 Solution Installation

In BIS 6.5.2 solutions were installed via hotfix mechanism and `"register-solution"`, which allowed to deploy them without downtime.

In BIS 6.7 the way to deploy a solution without downtime is to extract the ZIP and call `solution:install` from client-console as described in below table in last row..
This will get enhanced to have a "one-click" installation (depoyment manager) in future 6.5 and 6.7 versions.

BIS 6.5.2	BIS 6.7	Description
`software/register-solution2.sh <logicals system> <solution>`	`solution:install <logical system> <solution>`	Deploys a solution package to <logical system> Solution version is the version as shipped with the installation. Example: `solution:install 000 MFT`
`software/solutions/deploy-solution.sh`	`solution:install <logical system> ALL`	Deploys all installed solutions to the specified logical system. Solution version is the version as shipped with the installation.
Hotfix-installer for Applying solution hotfixes + `register-solution`	Step 1: Extract the solution zip files from hotfix and store them in folder software/solutions Step 2: `solution:install <logical system> <solution> LOCAL`	Third parameter `LOCAL` skips downloading the solution zips from BIS repository and installs the solution which is placed in `software/solutions` folder. This is the similar behavior as done by BIS-6.5.2

4.2.2.2 Directory Structure

The following table describes top level directories and their function in BIS 6.5 vs. BIS 6.7

BIS 6.7	BIS 6.5	Description
bin/	bin/	Executables and support files to start the instance (bin/{ssa,client/,drbis/} is no longer used in BIS 6.7). Most important BIS 6.7 commands are "bin/bis start|stop" - start/stop of application "bin/karaf console" - to start instance in foreground console mode "bin/client" - to attach to running instance in OSGi console mode
system/	bundles/ modules/	Application Server specific software files.
etc/	conf/	Configuration files. (Existing resources are moved while doing the migration. This includes conf/license and conf/keys)
etc/local	conf/SeeConfig/	Instance specific *SeeConfig* bootstrap configuration (INI format)
etc/shared/	temp/SeeConfig/	SeeConfig configuration from database (automatically exported in INI format and imported on change). This replaces the explicit export-config/import-config mechanism.

BIS 6.7	BIS 6.5	Description
etc/license/	conf/license/	Location for the SEEBURGER license files.
data/	data/	Various runtime data files, migrations keep this directory 1:1. (Note that Apache Karaf uses this directory for other, temporary data. In order to avoid renaming this directory the BIS 6.7 installation will use data/ like before and the Karaf equivalent is moved to karaf.data=temp/ and karaf.tmp=temp/tmp instead of data/tmp)
data/messaging/	data/<ID>/messaging/	JMS provider storage on AS and PE (for BIS 6.5 this is *HornetQ*, for BIS 6.7 it is *Apache ActiveMQ Artemis*)
deploy/		Unsupported Application Runtime (*Karaf*) specific hot deploy folder for OSGi bundles.
instances/	domain/	Application Runtime (*JBoss AS* / *Karaf*) specific boot-up configuration. Should not be modified. (most of the changes done for debugging purpose in BIS 6.5 `domain/configuration/` are no longer supported or have been moved to `etc/` directory).
	domain/servers/<ID>/data/tx-object-store/HornetqObjectStore/	Arjuna transaction manager is no longer used.
lib/	lib/	Software libraries for runtime startup and stand-alone commands.
lib/	lib/native/	Native shared libraries (`*.so`, `*.dll`) for drivers and external bundles.
	lib/font_extension/	Embedded fonts for report generation are migrated to resource repo (`ALL/adapter/ bicjr/lib/`) see Jasper reports Manual chapter "Font Extensions".
log/	log/	BIS Log files (slightly different layout, see "Differences").
log/server.lgw, log/error.lgw, log/server-boot.lgw	log/<ID>/bis-<ID>.lgw, log/<ID>/bis-<ID>-error.lgw, log/<ID>/bis-<ID>-boot.lgw	Main, Error and boot logfile of the application server.
log/monitoring/metrics/	log/monitoring/metrics/	Archive directory containing metric recordings for support (SSA) reasons. Content is automtically rotated, can be deleted (number of days kept is defined with VM option `-Dmetrics.max.history.size=7`)

BIS 6.7	BIS 6.5	Description
log/run/dir/	log/run/<ID>/	Application Server start directory (containing crash-, core dumps and GC logs)
log/diffdb/, log/update/	log/install/	Logging related to update (aka register) and diffDB commands.
runtime/	runtime/	Static files for Java Virtual Machine, BSP integration, staged frontend-vm (the scripting framework *Apache Ant* is no longer used in BIS 6.7)
software/	software/	Software and Installation maintenance related directories (see "Differences)
software/update/packages/hotfixes/	software/hotfixes/	The update script shuts down the instance and installs mulitple hotfix files (sorted by name). Start with primary admin server. Using the Hotfix function of the Installation Server is preferred.
software/backup/	software/update/backup/	Backups of older versions of installation files (to undo updates and hotfixes). In BIS 6.7 can be configured with `backup.keep = <number>` in `update.properties`. Backups can be restored with `bin/update --restore`. Make sure to contact SEEBURGER support in such cases. It is generally recommended to roll forward hotfixes and not revert them.
	software/spm-repository/doc/	Instances have no unpacked copy of the manuals (PDF) in 6.7. You find the documentation on the installation media or the software download page in the SEEBURGER Servicedesk Portal.
temp/	temp/	Temporary file storage (content can be deleted completely when instance is orderly shut down).
migration/	migration/	Work directory for migration activities, not normally used before/after migration and might get deleted automatically. (contains machine.-readable result of the `migration:evaluate` command: `migration/migration-evaluate.json`)
	provisioning/	Work directory for installation and update by the Installation Server. Not normally used before/after update operations.
_oldInstallation		Backup of 6.5 installation (if you delete this you cannot revert the migration anymore).

4.2.3 Obsolete Functionality Removed in BIS 6.7

The following articles/components are regarded as obsolete and will not be provided with BIS 6.7. If you still use this functionality on BIS 6.5 it is recommended to migrate to alternative protocols or applications.

- ISDN-based Communication Adapters (OFTP-ISDN - 4105B6, P7-ISDN - 4060B6, X31) - you can use the TCP/TLS variant of these adapters in BIS 6.7 (requires AQM).
- CommerceOne Adapter (2401B6 & 2402B6)
- BIS Secure Proxy Manager (6800P7) - there is no replacement for this App, installation/updates will be managed with WebInstaller or BIS Landscape Manager in the future.
- B2B Portal based Apps (xxxxP6)
  - You can keep operating a B2B Portal based on 6.5.2 parallel to a BIS 6.7 system until you have migrated to new App Framework (Portal7) based Web Apps.
  - None of the B2BPortal (Smarti) articles are supported on BIS 6.7. Please consider migrating to the new equivalent products (based on the App Framework). For functionality which is not yet available in BIS 6.7 you can continue to use (and update) B2BPortal Installations on the BIS 6.5 major product line.
  - The Change-log Portal App included in 6020B6 is no more available if you switch to new App Framework (if you install Portal Engine role).
- Worklisthandler (including instance role WLH) is removed. All adapter queues must use AQM. Instances which have only the WLH role do not need to be migrated. If an instance has multiple (other) roles the migration step will remove the WLH role.
- HP/UX and AIX will not be supported as a possible installation platform for BIS 6.7. You need to transfer your instances to Linux or Windows before you can run the migration process. We will continue to provide updates for BIS 6.5 on AIX systems till end of maintenance for the BIS 6.5 product line.
- The artifact repository (in Maven2 format for Adapter SDK usage in Developer Studio) is no longer provided by the Admin Server. This function is now served by a BIS Landscape Manager installation or you can provide your own CI repository server.
- The output to stdout and stderr of custom Java code (System.out.println) and BSH scripts (println) is no longer captured in the server log files. This functionality should not be used, please use the appropriate logging functions if you need to record such output. The script executor also provides a logStream attachment to write to.
- BPM Designer (6002B6) with Orga- and IT-Landscape diagramming utility is de-continued after BIS Process Designer 6.5.2 SP110.
- Components required for connecting to external application servers with *JBoss remoting* (as used by JMS and the Task Manager Integration) are removed with BIS 6.7.114 Using the Task Manager Integration to a separately installed B2B Portal is no longer supported. (the provided hotfix to re-enable this functionality will not be maintained after BIS 6.7.120).

4.3 Restrictions

Please mind the following restrictions if you plan to migrate to BIS 6.7. We will remove items from this list as we have solutions or mitigation's for the points raised here:

- The AQM (Adapter Queue Manager) component limitations are listed in the Adapter Queue Manager manual. Limited usage is possible since 6.7.80 / 6.5.2 SP80. Queues that are bound to resources cannot be migrated.
- To enable the new BIS App Framework-based management UI for BIS ("BIS Navigator"), the *BIS Integration Server Admin Web Tools* (6027P7) article must be added to the installed articles.
- Currently, there is no replacement for the Change-log Portal App and audit table from 6.5.2 installations with the 6030B6 article. A replacement audit logging will be provided in later service updates based on BIS Information Management or BIS Monitoring with the new App Framework (SILAudit entries).

- The *diffDB* step when installing or updating is executed by the *Installation Server* automatically. If you need more control over this update step, it is recommended to use the "db-only" upgrade mode available with the BIS Landscape Manager license.

4.3.1 ISDN adapter

You cannot migrate to BIS 6.7 version if you are using **ISDN adapters** on your system. For example, OFTP via ISDN is not supported in the new Adapter Queue Manager (AQM). Currently, there are no plans to support ISDN adapters with the new major version.

4.3.2 Logical resources/Limiting number of parallel orders

Instead of the "Resource management" concept (logical resources etc.), which is well-known from Worklist Handler (WLH), the new queue manager (AQM) uses a new concept to limit the number of orders being processed in parallel. This concept is called **Partner Limit**.

This limit can be configured directly on the AQM queue. The corresponding setting is named "Partner Default Limit." Some adapters, e.g., X400 P7, might not offer to configure that limit as it does not make sense to use a higher value than the adapter default (e.g., 1).
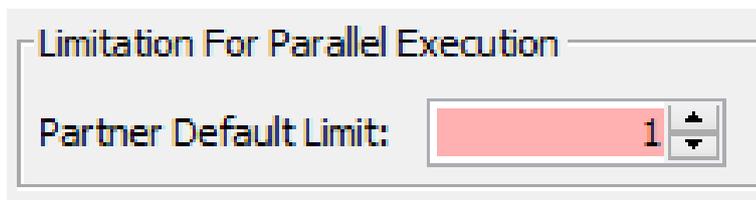
Example:
If a mailbox or partner server, etc., allows only one parallel login/connection/request at the same time or for which only one parallel login/connection makes sense (e.g., polling a mailbox should not interfere with uploading to/sending via a mailbox), then

1. the same "Partner" (e.g., connection master data) must be used for all orders to that "Partner", and
2. the "Partner Default Limit" must be set to 1 for the queue which is processing orders for that "Partner" (box/partner server, etc.).

For more details, see the Adapter Queue Manager (AQM) documentation.

4.3.3 S2 encryption (temporary)

Currently (SP86), the script to manage the wallet is not available. During migration, the wallet is transferred to the new location and is still used, but it is not possible to create a new key for the S2 encryption.

A workaround is available as long as the script is not available in BIS 6.7:

- After the migration go to the directory _oldInstallation/bin/manage-wallet(.sh|.bat) and create a new key with the command "manage-wallet.(bat|sh) create password.secret.xxxx 256".
- Open file _oldInstallation/conf/keys/masterwallet.properties and copy the entry xxxx, you just have created.
- Copy the entry to etc/keys/masterwallet.properties on all instances.
- Enable the key by changing the property "password.protectionkey" in masterwallet.properties to the newly created key xxxx on all instances.

4.3.4 Not supported adapters/protocols

If you have one of the following adapters running in your system and want to migrate to the new version, please get in contact with Seeburger support.

- CommerceOne
- All ISDN adapters (OFTP via ISDN, P7 ISDN, …)

4.3.5 Check OS and database support

Please check the OS and DB compatibility matrix in the release notes.

No longer supported OS:

No longer supported OS
Windows Server 2012 (R2) or older
Windows Server 2016
RHEL 6
OEL 6
SLES 11
HP-UX
IBM AIX
Oracle Solaris

No longer supported database versions:

No longer supported database versions
Oracle 12.1 or older
Oracle 18c
SQL Server 2012 or older
SQL Server 2014

If your existing BIS 6.5 installation is running on any of those operating systems or system database versions you should plan upgrade/move before doing the BIS 6.7 migration. It is recommended to do this in a separate step.

4.3.6 AQM supported adapters

The following list shows an overview of all adapters and since when they can be used in combination with AQM.

Keep in mind that most of the adapters (except OFTP and X400-P7) can also be used with direct mode queues.

Adapter	AQM support
AmazonS3Client	SP99
AS2	SP98
AS4	SP100

Adapter	AQM support
BIC Client	SP80
CMS	SP96
DB Client	SP99
EBICS	SP100
EBMX	SP80
EbXML-HTTP Client	SP80
eXite	SP80
File Client	SP96
FTP Client	SP80
FTP Controller	SP104
HDFSClient	SP98
HPSB Client	SP80
HTTP Client	SP80
ICAP	SP100
IDoc Client	SP80
JMS	SP80
Kafka Client	SP99
KSM Client	SP97
LDAP Client	SP97
Mail	SP98
MLLP	SP99
MQTTClient	SP100
MSMQClient	SP101
OFTP	SP98
OPC UA Client	SP99
PDF Secure	SP98
PGP	SP98
REST Adapter	SP99
RFC Client	SP96
RosettaNet-HTTP Client	SP80
Script Executor	SP80
SeDeB2B Client	SP80
SFTP Client	SP80
SFTP Controller	SP104
SLMP	SP101
SMIME Module	SP96
StoreService	SP80
VCOM Client	SP80
Web Services	SP99
X400-P7	SP98

Adapter	AQM support
XML DSig	SP97

4.4 Prerequisites

In the following chapters the prerequisites are described that must be taken care of before starting a migration to BIS 6.7.

It is crucial to read all chapters and check whether the corresponding step is already finished or not. In the following chapters, the terms "Migration" and "Update" are used. Here is a short description of what is meant with those terms:

- **Migration**: This describes the in-place change from version BIS 6.5.2 to BIS 6.7, keeping all your data and configuration. Some adjustments are necessary; those are described in the following chapters. This side-step happens between exactly the same service update and revision level.
- **Update**: An update is installing a service pack or revision to your existing BIS 6.5.2 as well as installing a service update or revision to an existing BIS 6.7 version. You will stay on the same major version, either BIS 6.5 or BIS 6.7. **Rolling-** or **Online** updates are possible within a range of 12 service updates. This can be done with no observable downtime to the operation if the system landscape is designed accordingly. The normal mode with shutting down all instances is faster, less complicated, and can be used for larger version ranges. It is called **Parallel-** or **Offline** Update.

4.4.1 Installation Server Integration

With BIS 6.7, the previous stand-alone setup tool (installation wizard) is no longer available. All installations, updates, and the migration are performed with the *Installation Server* (WebInstaller or BIS Landscape Manager). Therefore, you first have to install the Installation Server and then register the existing installation in it.

The installation tool for the Installation Server is located on the BIS 6.5 or 6.7 installation media (`<MEDIA>/ webinstaller/…`).. You can use any version of the media. However it is important that you use the latest version of the Installation Server only (i.e. newer or same version than any products you want to manage). If you do not use the latest BIS 6.7 service update media, you must self-update the Installation Server by configuring the SEEBURGER update server.

You can find the instructions on how to install the installation server and how to import your existing landscape in the **BIS Landscape Management** manual or online help.

You can also use the Web Installer or BIS Landscape Manager to update and maintain BIS 6.5.2 installations. It is therefore recommended to introduce this valuable tool early, even before planning on migration.

> **Note**: If you are using the SAP Adapters make sure to have the latest version of SAP JCo registered as a resource in your Installation Server (BIS Landscape Manager or Web Installer).

> **Note**: If you want to maintain (extend, repair or change roles) an registered instance you need to have imported the product's installation media (in the exact same version as installed) first. This is required because the Installation Server may access product meta-data for these tasks. If you only import an older version of a installed product for the purpose of updating it to the latest service pack (i.e. if you don't change articles or roles in this step and not use repair), you don't need to import the installation media for the start-version, only for the target version.

4.4.2 UMS installation, Migration from Smarti User Management

Starting with the new BIS 6.7 major version, the new User-Management-Service (UMS) is mandatory. It replaces the current "Smarti" user management.

User Management Service (UMS) is used for the central management of company-related applications, users, and permissions. UMS is also available for BIS 6.5.2 SP110.

Before starting the update procedure in Installation Server, you have to adjust the `<BIS_HOME>/software/ vm.properties` and add the property "`-DuseClassicUserManagement=true`". (To enable this settings, execute `<BIS_HOME>/software/register{.sh|.bat})`. With this property, Smarti will still be the leading user management after adding UMS to the system. That leaves you the time to migrate all settings from Smarti to the UMS without disturbing the system. Do not set this setting to true if you have already converted to the UMS method.

Use the Installation Server to add the roles "UserManagement" and "PortalEngine" to all instances which have the role "AdminServer" in your selected BIS system. This can be done during the update process to the sidestep version of 6.5.2.

Afterwards, you will be able to connect to the new "BIS app-framework" (formerly known as Portal7) and the new application "UMS". Now both user managements are installed, but "Smarti" is still the leading system, because of the formerly set property. You can now start to migrate data from Smarti to UMS.

Seeburger provides a tool to migrate users, roles and rights. Additionally. this tool will provide a check-step before the actual UMS migration and returns a human-readable report about the changes that will be performed during the migration. For details about the execution of the migration tool, refer to the section UMS migration execution (page 31) below.

After finishing the UMS migration and importing all the configurations, the property (`– DuseClassicUserManagement=true`) must be removed from `vm.properties` in order to make UMS the leading user management system.

4.4.2.1 UMS migration concept

Below is a short description about how the migration from Smarti to UMS works:

- All logical systems from Smarti will also be created in UMS.
- All users from Smarti get migrated to UMS. Because the email address is a mandatory field in UMS, a default address is automatically generated, if not present.
- In UMS you only have one user that has privileges on multiple logical systems. Having multiple users in Smarti with same name in different logical systems was solved by taking the first found user in Smarti and use its credentials for UMS.
- All roles from Smarti are migrated to UMS, including adjusted default roles.
- In UMS you assign the user to groups instead of roles. Therefore for every user-role combination (Smarti) a group will be created in UMS with the same roles. All users with the same role combinations will be assigned to that group. The newly generated groups have a default naming (Group 1, Group 2, …). It is the task of the administrator to adjust the group names to something useful afterwards.

4.4.2.2 UMS migration execution

The actual migration comes in two steps.

Dry-Mode:

1. Open BIS client console (`<BIS_HOME>/bin/client`) on the primary AdminServer

2. Execute command `smarti:migrate`

3. An html report is generated about the changes that will be performed while doing the migration.

Please check the report because it also includes warnings. If you want the warnings fixed in another way that the automatic tool will fix it, you have to change the data already in Smarti. After making changes to Smarti you can execute the command again and check whether the warnings are fixed or not.

Execution:

1. Open BIS client console (`<BIS_HOME>/bin/client`) on the primary AdminServer

2. Execute command `smarti:migrate --execute-migration`

All changes stated in the html report will be executed now. Afterwards, all data should be available in UMS and all users should have the same permissions as in Smarti.

4.4.2.3 UMS Migration Troubleshooting

Under some conditions (when using Microsoft SQL Server as a System Database with a case insensitive collation and having users with mixed-case or where the casing was changed), you might get errors in the Java Front-end when saving user preferences, especially while closing module windows.

```
Error saving user preferences to database!
```

A more specific reason will be visible in the Front-end console: (in this example, the user was named `SeeConsulting` before):

```
Caused by: java.sql.SQLException: Cannot insert duplicate
  key row in object 'dbo.tFEUserPrefs'
  with unique index 'ix_tFEUserPrefs_cUserID'. The duplicate key value is
  (seeconsulting, 000, frontend, ...
```

You can also preventively check for this condition with the following SQL Server SQL query:

```
SELECT cUserID,cEnv FROM tFEUserPrefs WHERE cUserID NOT IN (
  SELECT cLogOnId COLLATE Latin1_General_CS_AS FROM tUMS_Users)
```

The query lists all suspicious user IDs and together with the logical system they are in. It should not return any results. If you see matches, you might need to investigate and correct the issue. For example, by updating the `tFEUserPrefs.cUserID` column with the correct casing (as seen in `tUMS_Users.cLogOnId`).

4.4.3 AQM Installation, Migration from WLH

With BIS 6.7 the worklist handler (WLH) is no longer available. It will be replaced with the Adapter-Queue-Manager (AQM). The AQM will automatically be installed if you update your BIS 6.5.2 to a service pack >= SP79. No additional role or article is required to have AQM installed.

You can now create and use AQM queues via the BIS frontend. In entities using new AQM queues, you have to use the notation "`aqm:<queue name>`".

Additionally, we provide a tool to migrate the existing WLH queues to AQM queues and the remaining WLH orders to AQM orders. After successfully finishing the migration tool, all WLH related data is available in AQM. There is no need to adjust your entities afterwards.

Regarding restrictions and execution of the AQM migration tool, please see chapter "WLH-AQM Migration" of the **Adapter Queue Manager** *manual on BIS installation medium*.

4.4.4 Update BIS Secure Proxy (BSP)

If there is a secure proxy installed in your system, please take care to update your version of secure proxy to a version >= SP77.

> **I** **Note**: The BIS Secure Proxy is delivered and installed from the BIS 6.7 installation media in the terminal Service Pack.

4.4.5 New Software Delivery Note required

Every major release of BIS requires a new license key. To request a new license key you need a new software delivery paper.

It is recommended to contact your SEEBURGER sales contact before the actual migration is scheduled, in order to allow enough preparation time to adjust your list of included SKUs.

4.4.6 New License Key

Starting with BIS 6.7, Seeburger is introducing a new license manager in the Seeburger cloud (https://portal.cloud.seeburger.de). After registering in the cloud, every customer can request their own licenses in this new application and they will be sent via mail from Seeburger. This license must be imported into the Installation Server (BIS Landscape Manager or Web Installer) and afterward deployed to the system. For more information on licensing, refer to "BIS License Manager" online help at https://help.cloud.seeburger.com.

Before migrating your BIS 6.5.2 to the new BIS 6.7 version, please request a new license via the license application in the Seeburger cloud.

4.4.7 Replace Dr. BIS/Nagios

Starting with BIS 6.7 the product "Dr. BIS" will no longer be available. The tool is often used to send information about BIS to the monitoring tool Nagios.

Almost all commands that could be executed in Dr. BIS are now part of the Client-Console. Open it by executing BIS/bin/client(.sh|.bat). Additionally, the commands can be scripted in order to be executable by external programs, like Nagios.

In the client-console you now have four main commands that are replacing Dr. BIS commands.

Command	Description
diagnostic:mbean-info	Get information about MBeans
diagnostic:oldest-message	Lists the oldest queue message
diagnostic:query-db-count	Queries the database with the given WHERE statement and returns the result. If no datasource is given, DS_INITIAL is used by default.
diagnostic:show-metric	The client console provides hundreds of system metrics to monitor the system.

Using those commands with one of the parameters (-c, -w or –cd) returns the Nagios specific result OK, WARNING or CRITICAL.

The Client-Console and the corresponding commands are already available in BIS 6.5.2 after updating your current version to the sidestep version. Ideally, you reconfigure your Nagios installation to use the new commands before migrating to BIS 6.7.

More about the Client-Console commands and replacement of BIS 6.5.2 scripts, you find in the corresponding manual and in chapter 6.

4.4.8 Adjust your Log-Crawlers

With new BIS 6.7, the form and the location of the log files are changed.

By default, the location of the log file is now `<BIS_HOME>/log/server.lgw`. The other log files are now located corresponding to the server log file, e.g. the adapter log files are stored at "BIS/log/adapters/".

The form of the log file was also changed. The location of the timestamp, thread, logging text, etc. is now slightly different to the log file of BIS 6.5.2. However, the content of the log statements was not changed. If you are using a log file crawler to look for certain log statements, you have to adjust the regular expressions you are currently using.

Additionally the server log file now starts with some information about the system, e.g. name of the instance, system.id, installed instance roles, operating system, etc.

4.4.9 Create Backups

It is recommended to create snapshots of all application servers (with OS, SAN or VM means) as well as the database server before starting the migration. In case of any issues, the original system can easily be restored by switching to the snapshots.

4.4.9.1 Classifier

If old generic classifier configuration files are used, they should be converted. This is already recommend for 6.5.2 versions. The conversion of the old XML generic configuration files to master-data is done via script `<BIS_HOME>/software/ClassifierMigration.{bat,sh}`.

Running the script migrates all XML generic configuration files available to be loaded by the Classifier. See also book *File Classifier*, chapter "Classifier Generic Configuration Master-data".

4.4.9.2 DataStore

Migration check might fail with:

```
Migration is not possible, because HSQLDB is configured for embedded datastore server
 database.
Consider changing from embedded DB to index file system.
```

If you encounter this, read "Configure index files for meta information store" in the DataStore manual.

4.5 Migration Steps

Changing the version of an existing BIS 6.5.2 installation in-place to a BIS 6.7 installation is called migration. This section gives you a short description of this procedure.

The Installation Server (BIS Web Installer or BIS Landscape Manager) is used to install or update/upgrade/ patch BIS systems. It can also migrate an existing BIS 6.5.2 SP110 installation to the corresponding 6.7.110 version. Migrations can only be done for the same Revision. The following diagram illustrates this process:
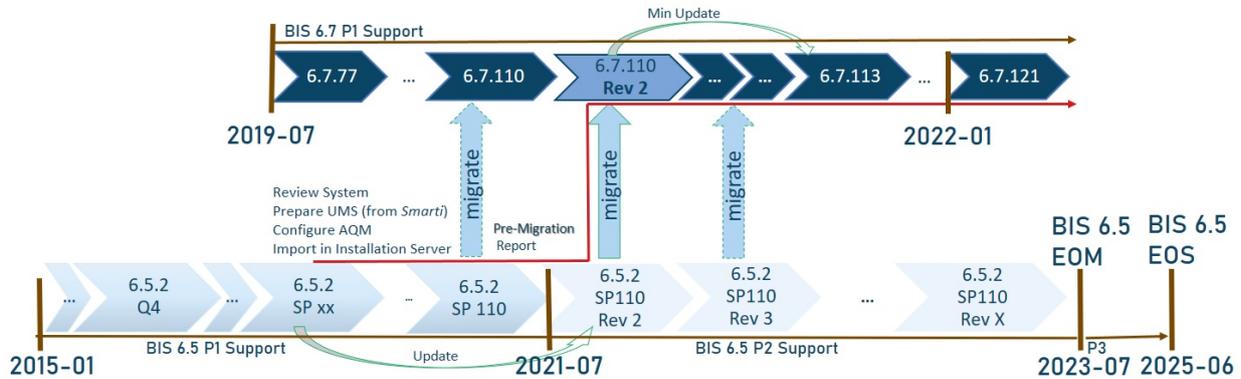
Migration is always done from same service level and revision
1. Step: Update to 6.5.2SP110 Revision
2. Step: „side step" to „same" 6.7 service release w/ migrate function
3. Step: Regularly Update (must be to „Min. Update" of Revision)

Warning: Although SEEBURGER uses a "single source" strategy for BIS 6.5/6.7 there are still differences in the configuration, environment, used application server technologies, library versions, and the modules which are platform specific. For this reason it is strongly recommended to exercise the migration process on a staging system which is close to production. It is also recommended to do functional testing (especially for custom components/scripts) and load testing before starting to migrate your productive instances. Allow enough time for system review, testing and requesting a new license in your project road-map.

The migration process looks like this:

a) Install the latest released Web Installer or BIS Landscape Manager. In the following text we use the term "Installation Server" for any of the two products. We recommend to always use the latest version, but at least a Installation Server version which newer than all other product versions you are dealing with. You can use any of the BIS 6.5 or 6.7 installation media (but if it was not the latest 6.7 service update you must configure the online connection to the SEEBURGER Update Server and self-update the Installation Server first).

Note: If you are using the SAP Adapters make sure to have the latest version of SAP JCo registered as a resource in your Installation Server.

b) Import the existing BIS 6.5 system into the Landscape view (this means two things for the Installation Server, you need to import the actual installed product version (Installation Media) into the software repository and define all machines/instances of the system you want to import. If you do not see the "Migration" menu option in the Installation Server web application then one reason for this is that the version read from the existing BIS 6.5.2 system does not exactly match any software version existing in the software update repository.

Warning: If you import a Windows Instance it assumes it is controlled as a Windows service with the "net start" (or stop) commands. If this is not the case Installation Server will fail to stop the instance but fail to recognize this. See the Landscape Management manual for details. You need to enter the command "D:\BIS_HOME\bin\bis start" (i.e. the full windows path of the bis.bat file and start or stop argument) into the extended instance properties instead. This requires the user which runs the

Installation Server (if instance type is local) or Agent (if instance type is SSH with Windows Agent) to be the BIS runtime Windows user.

c) (optionally) If the existing BIS 6.5 is not yet on the last service pack revision (6.5.2 SP110 Rev 12 or newer), import the BIS installation media for the current 6.5 as well as the latest revision (target migration version), and use the Installation Server to actually update to this version first. We recommend to always go to the latest service pack version on the 6.5 product before migrating to BIS 6.7 - the reason for this is that the migration reporting and automation are shipped with the BIS 6.5 version and will be constantly improved.

d) Request an update delivery note. If you receive the number, request a new License File for BIS 6.7 from Consulting or via the License Manager (cloud) application. For more information, see *License Manager* manual.

e) Some prerequisites for BIS 6.5 systems must be met before they can be migrated to BIS 6.7. This especially includes:

- the System must use UMS for the User-Management. If it used Smarti (B2BPortal) users before this needs to be re-configured. See "Preparing Migration.". Also the BIS App Framework (Portal 7 on Portal Engine role) must be active on all Admin Servers.
- the system must no longer use "generic classifier configuration". See " Prerequisites (page 30)"
- in BIS 6.7 the legacy WorklistHandler components (and Instance Roles) are no longer supported. All existing WLH queues must be migrated to the new Adapter Queue Manager (AQM) first. (Currently not all Queue types and features are supported by the AQM yet, we plan to add those in future service updates.)
- some deployments of external scripts and libraries have changed, the migration process will be able to migrate them automatically. However you need to verify that the new platform still provides all the required dependencies so these components can still work.
- run the diffDB command on the existing BIS 6.5.2 version and make sure no unaccounted changes are reported. Migration is only supported if the database schema has the expected layout for the BIS 6.5.2 version from which you start the migration from.
- in case you use DataStore it must no longer use an embedded DB for storing meta data. Change config to use index files which replaces the embedded DB. See Preparing Migration for details.

f) In order to migrate an existing BIS 6.5 installation (which follows the prerequisites mentioned above) to the corresponding 6.7 service update you will have to import the 6.7 software into the installation server software update repository (if your Web Installer or BIS Landscape Manager is configured to use the SEEBURGER Update server you can check for updates to download the latest BIS 6.7 service update automatically. Otherwise there is an installation media which contains a 6.7 software repository which you can import from the filesystem or upload via the browser UI instead).

g) The new "Migrate" menu option in the Installation Server allows to inspect all Systems which are candidates for updates. It can run a pre-migration report to check if there are any issues requiring attention. And finally you can migrate the system with this function. This function also supports to roll-back this action. If the "Migrate" menu entry is not shown you might not have the correct Install Server version or there is no 6.7 software imported into the software update repository or there is no system in the landscape which has a supported 6.5 service pack (i.e. only systems older than SP77).

☐ **Tip**: If you want to check an existing BIS 6.5.2 if the migration checks are fine, you can do so without Installation Server (Web Installer / BIS Landscape Manager) on the OSGi console of the primary Admin Server with the following command: "`bin/client migration:evaluate`" and see a short result table.

4.6 Additional Adjustments

4.6.1 Network Configuration (Firewalls)

Due to the platform change from BIS 6.5.2 to BIS 6.7 you should check the corresponding **Network Configuration** manual about the ports that need to be open between the various instances.

Quick overview:

- From Installation Server to any instance (ssh or ssh agent port)
- From all instances to any other instance: `fastbin.port` (4000)
- From any AE to any PE: `jms.port` (5445)
- From any instance to datastore (if installed): `datastore.port` (15000)

4.6.2 Recreate OS Service

After migrating to BIS 6.7 you have to re-create (register) the OS service installation.

Under Windows, open a command line window with administrative privilege:

1. Remove current service installation with `sc delete`. (Observe different naming scheme, see Installation manual for details)
2. Re-create service: `bin\service.bat install`
3. Go to services and enter credentials for the newly created service.

Under Linux, open a root shell:

1. Remove existing service installation (init.d file or systemd unit file). (Observe different naming scheme, see Installation manual for details)
2. Re-create service: `bin/service.sh install <runtimeuser>`
3. Allow runtime user to use *sudo* to control *systemctl* commands for start and stop

4.6.3 SSA

The SEEBURGER Support Agent have been simplified and integrated with the OSGi console commands. The command "`diagnostic:run-profile`" can be executed with several options, e.g. profile (typically monitoring, analysis or incident), create-heapdump, send collection archive, etc.

If you obtained the SSA config file from SEEBURGER support you can install it on all instances where you want to directly send the collection results (`-s` option). It does not require to set-up AS2 connections, anymore.

If you have a remote monitoring contract with SEEBURGER, you can enable and configure the corresponding BIS scheduler "`COLLECTOR_ANALYSIS`", and/or "`COLLECTOR_MONITORING`" to send periodically system information.

If you use any older SSA installations, especially the stand-alone SSA Sender, you might need to remove them and clean up system services.

We recommend testing the new SSA send functionality and your SSA configuration by sending an incident report to SEEBURGER. This way we can also review it and update our support configuration database with your actual new product version. This is also required for the SEEBURGER Remote Monitoring service

offering. In the future, we plan to support this use case with an endpoint-config file that does not need specific SSA configuration information. See the **Landscape Management** manual on how to obtain and register such update-endpoint config files.

4.6.4 Update your System documentation

In your custom system manual where you document your installation and administrative procedures, add at least the following items:

- SeeConfig is no longer XML, but INI. Adjust XML snippets accordingly.
- Be careful with editing config files or making backup copies, all files in the SeeConfig directories will imediatelly and automatically be copied to active database.
- Check directories. Some configurations were moved to new directories.
- Installation Server (BIS Landscape Manager or WebInstaller) is used for updates and hotfixes.
- Assumptions about the process trees and scripts for monitoring (DrBis/Nagios) the application server need to be adjusted.
- Update your DR recovery procedures and schedule a validation drill.

4.6.5 Monitoring with Prometheus and Grafana

With all the metrics (`diagnostic:show-metric`) available in the client-console (bin/client) and also propagated via http (http://localhost:13000/monitoring/metrics), you can use the time-series database Prometheus and the graphical tool Grafana to display the metrics.

For further information and how to install, please check the **Monitoring and Reporting** manual.

4.7 Script and Command Replacements

Almost all scripts (.sh/.bat) that were present in BIS 6.5.2 were removed and replaced by commands accessible in the new client console (BIS/bin/client.sh|.bat). Almost all commands have an online help that is shown when entering "--help" after the command. All available options/parameters are listed there as well. The client console is auto completion aware. After starting to enter a command, you can click the "TAB" key to call the auto completion. Keep in mind that BIS must be running in order to access the client console.

In the following table you see widely used scripts and there replaced commands or scripts.

4.7.1 Solution Commands/Scripts

BIS 6.5.2	BIS 6.7	Description
software/register-solution2(.sh|.bat)	solution:install	Deploy a solution to the given logical system. Solution version is the version shipped with the installation, e.g. solution:install 000 MFT
software/solutions/deploy-solution (.sh|.bat)	solution:install	Deploy a custom solution, e.g. solution:install 000 S-1000.zip Command recognizes that no standard solution was selected with help of the filename.
software/register-tpm(.sh|.bat)	solution:register-tpm	Merges the TPM schema files (forms).

BIS 6.5.2	BIS 6.7	Description
software/uploadCR(.sh|.bat)	solution:uploadCRs	Uploads the change requests from the default folder.
software/db/restoreDB(.sh|.bat)	solution:restore-db software/db/restoreDB.sh	Restores the flat files from folder software/db/data to the database.
software/import-forms(.sh|.bat)	solution:forms-import	Imports the solution form files from the file system. By default from: data/webdav/repository/conf/forms
software/export-forms(.sh|.bat)	solution:forms-export	Exports the solution form files to the file system. By default to: data/webdav/repository/conf/forms
software/bisadm-userprefs(.sh|.bat) import	solution:userpreferences-import	Imports the user preferences from the file system to the database.
software/bisadm-userprefs(.sh|.bat) export	solution:userpreferences-export	Exports the user preferences to the file system from the database.

Start/Stop Commands/Scripts

BIS 6.5.2	BIS 6.7	Description
bin/bis	bin/bis	Start, stop, status script for BIS to run it in background. Same as in old version. For drain with subsequent stop of the instance, use option "safe-shutdown".
-	landscape:drain	To drain an instance without using the BIS dashboard, but only the client console.
bin/run-bisas(.sh|.bat)	bin/karaf console	Start script for BIS to run it in a console.
	bin/start	Start script for the BIS application
	bin/stop	Stop script for the BIS application

4.7.2 Database Commands/Scripts

Many of the database scripts are still available because the client-console works only if BIS is running.

BIS 6.5.2	BIS 6.7	Description
software/bisadm-db(.sh|.bat)	Not yet available. Will come in future release.	Check and change the database connection from the local instance and from BIS system datasources. Workaround: 1. Change system database in *etc/update.properties* and execute *bin/update -c* afterwards. 2. If frontend is not available, change database table *TDSAC*

BIS 6.5.2	BIS 6.7	Description
		COUNTS in order to reconfigure datasources.
software/db/backupDB(.sh|.bat)	software/db/backupDB(.sh|.bat)	Executes the backup scripts from sqlback folder and stores the database content it in folder data.
software/db/restoreDB(.sh|.bat)	software/db/restoreDB(.sh|.bat)	Executes the restore scripts from sqlres folder and tries to restore flat files from data folder to the database.
software/installdb/diffdb(.sh|.bat)	software/installdb/diffDB(.sh|.bat)	Compares the structure of the database tables with schema files. New options for execution: · compare: default execution · apply: replaces exec and execforce

4.7.3 Security Commands/Scripts

BIS 6.5.2	BIS 6.7	Description
bin/manage-wallet(.sh|.bat)	Offline-Console (bin/shell[.bat]): wallet:*	Script to manage the wallet keys.
software/encode-password(.sh|.bat)	util:encrypt	Encrypts a given string (either S0 or S2), e.g. encrypt testPassword
software/datastore-keytool(.sh|.bat)	datastore:generate-secret-key	Creates a new key for the datastore encryption.

4.7.4 Misc

BIS 6.5.2	BIS 6.7	Description
software/bisadm-resrepo(.sh|.bat)	resrepo:*	Perform actions on the resource repository, e.g. resrepo:tree (to see all entries)
software/version(.sh|.bat)	diagnostic:version-history	Prints the update/hotfix history and installed articles/roles of the current instance. General information, including installed articles, version and hotfixes can also be found in systeminfo.log
software/register(.sh|.bat)	bin/update -c	Script needs to be executed after changing configurations in update.properties.

4.8 Configuration Replacements

Same as for scripts and commands applies for configurations as well. Some of the known configurations from BIS 6.5.2 were moved or merged to new files.

BIS 6.5.2	BIS 6.7	Description
software/ports.properties	etc/update.properties	Contains the ports opened for various use-cases. Merged into `update.properties`. Execute "`bin/update -c`" after changing a property (requires a shut-down of the instance).
software/register.properties	etc/update.properties	Contains the database configurations. Merged into `update.properties`. Execute "`bin/update -c`" after changing a property. Additional steps might be required to update the datasource definitions, see the Maintenance Procedures chapter.
software/vm.properties	etc/update.properties	Contains the JVM relevant configurations. Merged into `update.properties`. Execute "/bin/update -c" after changing a property (requires a shut-down of the instance).
software/profile.properties	etc/update.properties	Contains `instance.id`, `system.id` and `instance.group`. Execute "`bin/update -c`" after changing a property (requires a shut-down of the instance). Additional steps might be required and it is generally not recommended (especially if the instance stores state like DataStore or JMS Broker in PE) - make sure to coordinate with SEEBURGER support for this activity on critical systems.
temp/SeeConfig	etc/shared	Internal configuration of BIS. No need for export-config or import-config commands anymore. The format of the configuration files were changed from XML to INI. ⚠️ **Warning**: Changes to these files are picked up automatically and immediately, but only if the instance is actually running. When starting up the instance, it will import the instance-specific configuration from `[own-instance]` into the database.

BIS 6.5.2	BIS 6.7	Description
		However, the configuration shared by all instance in `{com.seeburger.conf.user=BISAS}` will be exported from the database at startup, so local changes will be overwritten. On the instances with "Admin Server" role, the instance-specific configurations of the other instances are also exported from the database at startup. Do not create backups, temporary copies or incomplete configuration files in this directory. A safe way to make changes is the Configuration Editor Web app.
log/bis-%instance%.lgw	log/server.lgw	The main application server log file.
log/run/%instance%/	log/run/dir/	Process start directory, used for crash dumps and GC log (in 6.7, the instance id is replaced by the fixed string `"dir"` to preserve hierarchy depth.)
conf/keys	etc/keys	Storage of keys, e.g., datastore, masterwallet, ssh key for client console, driver trust- and keystores. Not used for/by the Keystore Manager (KSM) master data which is in DB tables.
conf/custom/translations/…*.seenls	ResRepo	Translation of columns, forms, etc.
conf/license	etc/license	Location of the license. Can be deployed via landscape manager.
runtime/jvm64	runtime/jvm64	Java runtime.
runtime/instantclient		Driver is not maintained by SEEBURGER and no longer directly available. Refer to **Oracle Database Driver** and **Oracle Connection Debugging** sections in the **System Database** manual for more details.
conf/StorageClient	etc/StorageClient	Configuration for datastore client.
conf/StorageServer	etc/StorageServer	Configuration for datastore server.
software/hotfixes	software/update/packages/hotfixes	If not available, create the directory. Afterwards execute "bin/update". This will deploy all hotfixes in that directory. Normally done via Installation Server (Web Installer or BIS Landscape Manager).

4.9 Dr.BIS Replacement

With BIS 6.7 the tool Dr.BIS will no longer be available. The commonly used functionalities are moved to the new client console (bin/client).

Dr. BIS	Replacement
Provides script file to execute queries. Can be remote-executed by monitoring tool	The new client console can be called via ssh and is scriptable. There are several command available to query, e.g. database, MBean, etc. For the monitoring tool Nagios there are special commands available returning the result in a special form. Please refer to chapter 3.7 for further information.
Query DB data Dump DB query to file	Open new client-console to use query command: diagnostic:db-query. This command queries the database with the given WHERE clause. Additionally, you can specify the datasource and logical system. With the option -o you can specify a location where the output should be stored. You can specify the format of the output with option -f (CSV, HTML, JSON or TABLE)
Query MBeans	Open new client-console to use query command: diagnostic:mbean-info. For information about all available MBeans, use command: diagnostic:mbean-list
Query adapter state	Open new client-console and use command: adapters:list. This command shows a list of all adapters of all instances and their current state.
Check database connection	Open new client-console and execute command: db-test-connection.
BIS state	Execute script file bin/status(.bat)
Monitor JMS queues	Open new client-console and execute one of the following commands: · diagnostic:oldest-message -q <queue>: Lists the oldest queue message of the corresponding queue. · diagnostic:show-metric -m bis_jms_message_count: Lists all queues and the number of messages in the queue.
File Management: delete, move, copy	Those commands are not available any longer.

4.10 FAQ

This section gives answers to frequently asked questions about the BIS 6.5 to BIS 6.7 migration process. Please also read the documentation of BIS 6.5 and 6.7 differences in the Release Notes and Installation Manual. Not all of these manual procedures are officially supported or tested, so make sure to test them on your own environment. If you need support with any of these activities, contact your SEEBURGER representative for an offer.

How to deploy a standard solution

You have to do the following steps in order to deploy a standard solution shipped with installation media (or hotfix):.

1. Open client console (`bin/client`)
2. Execute the command to deploy the solution: solution:install <LS> <solution>, e.g.: solution:install 000 MFT
3. Execute command: `solution:register-tpm`

How to deploy a standard solution (via ZIP)

Since version >=SP86 the portal app DeploymentManager is used to prepare standard solution ZIP files in order to deploy them to BIS.

1. Download the ZIP file for the standard solution from MFT.
2. Extract the package_*.zip file
3. Open the application folder of the corresponding logical system on the Portal
4. Open portal application *DeploymentManager*
5. Create one or more tasks (depends on the number of ZIP files) and upload the standard solution ZIP file. (form: B6-652-xxxx.zip)
6. Click through the wizard.
7. After finishing the wizard, do a right click and activate the task
8. The corresponding solution files should now be stored in BIS/software/solutions
9. Open client console (bin/client)
10. Execute the command to deploy the solution: solution:install <LS> <solution> **LOCAL**, e.g.: solution:install 000 MFT LOCAL the parameter LOCAL skips downloading the solution zips from BIS repository, but installs the solution placed in software/solution folder.
11. Execute command: `solution:register-tpm`

It is planned, that the manual steps after the deploy can be controlled directly from the Deployment Manager

How to deploy a custom solution

If you have a custom solution and want to deploy it, you have to do the following steps. For those steps, BIS can be up and running.

1. Store the ZIP file with the custom solution in directory `software/solutions`. If the directory is not available, create it.
2. Open client console (`bin/client`)
3. Execute the command: `solution:install <LS> <solution.zip>`, e.g.: `solution:install 000 S-11000.zip`
4. It is important, to add the extension ".zip".
5. Execute command: `solution:register-tpm`

How to deploy a hotfix via Installation Server

If you have to deploy a hotfix to your landscape, follow these instructions to do that with WebInstaller or BIS Landscape Manager (also check Landscape Management manual)

1. Upload the hotfix ZIP file to the Installation Server
2. Select the instances where the hotfix should be installed.
3. BLM/webinstaller is doing everything automatically in the background (rolling if Active-Active is available)

Hotfixes always need to be installed in the primary Admin Server first.

How to manually deploy a hotfix

Follow these steps to deploy one or more hotfixes:

1. Go to directory "`software/update/packages/hotfixes`". If it is not available, create it.
2. Store one or more hotfixes in that directory.
3. Drain/Shutdown the instance
4. Execute script `bin/update(.bat)`

- If more than one hotfix was in the directory, all hotfixes will be deployed. The order is defined by the name of the hotfix.
- BIS will be shut down during the hotfix process if you did not do it manually
- On the admin server a diffdb will be executed to apply possible changes to the database.

Hotfixes always need to be installed in the primary Admin Server first.

Configuration change in update.properties

If you want to change any instance configurations in `update.properties`, you have to do the following steps.

1. Open file `etc/update.properties` and do your changes.
2. Drain/Shutdown the instance
3. Activate your changes by executing "`bin/update -c`"

Configuration change in SeeConfig

If you want to do any changes to the formerly known SeeConfig, you have to execute the following steps:

1. Go to `etc/shared/` and do your change
2. Nothing else is necessary. Your changes will be enabled after a couple of seconds.

⚠️ **Warning:** since configuration files are picked up automatically in this directory tree make sure to NOT store any copies, working versions, incomplete changes or backups of files in this directory tree.

Datastore mandatory?

So far, the role Datastore is not mandatory. It brings a lot of advantages to have a datastore installed in the landscape, but it is not required for basic functionality. New features like BIS Monitoring, Replication, DR Event Store for Site-to-Site, Malware Scanner Quarantine, SEEBURGER VFS and "BIS Process LOBs out of database" however require a working Data Store installation.

MT-Migration

If you have a B2B Portal installation with Message Tracking, it is not necessary to change anything, it can be used in combination with BIS 6.7. The interface between BIS and MT is the database + file system.

However (since B2B Portal is soon End of Updates), it is possible to change from MT to BusinessTracking using SIL-Server and an application in the app framework. There is no migration path to make the MT data available in the application.

Additional database drivers

If you have to import additional database drivers for custom datasources, you have to follow these instructions:

1. Create a new directory with a name to choose freely
2. Put the JAR file into the directory
3. Move the whole directory to folder: `BIS/software/external`

This directory acts as a hot deploy folder and the libraries get imported during runtime.

⚠️ There is no need to add an Oracle, jTDS, Microsoft, PostgreSQL or H2 database driver because they are added automatically during installation.

MTP between BIS 6.5.2 and BIS 6.7

Transporting ChangeRequests from one System to another is only supported if both have the same versions. However different service packs or major releases usually works.

When transporting Mappings from BIS 6.7 to BIS 6.5 you must manually ensure that the java classes on the BIS 6.7 system are not compiled with the Java 11 compiler present on newer BIS 6.7 systems. This can be done by adding the instance property `env.JDK_JAVAC_OPTIONS = --release 8` on all instances and re-executing `update -c` which will restart them. This should only be kept for a limited time and may not be supported.

backupDB and restoreDB between 6.5.2 and 6.7

It is possible to call backupDB script in 6.5.2 and use the data for the restoreDB script in BIS 6.7. Only table "`tFilesystem`" (contains SeeConfig) should not be transported to the new system.

When switching also database host or the database vendor, also table "`tDSAccounts`" must be adjusted or skipped.

The only restriction is that both versions must be running on same ServicePack/service update level.

Installer Server Properties starting with setup.*

When doing a clean installation, it is possible to set all properties that are added to the `update.properties` file.

For setting those properties in BLM, just enter the prefix "`setup.`" to the corresponding instance property, e.g. setting the property "`setup.http.port`" to value "10000".

Switching to PostgreSQL (BIS 6.7 to BIS 6.7)

You have to complete following steps to migrate to PostgreSQL:

1. Configure database as described in SEEBURGER *SystemDatabases* manual.
2. Backup data from current database by executing `software/backupdb`
3. Obfuscate new database passwords with client-console command `util:encrypt` and store them for later use.
4. Stop BIS
5. Backup `etc/update.properties`
6. Change `etc/update.properties` and update following properties

Property	Description
db.name	Name of the new database schema
db.owner.name	Name of the schema owner
db.owner.password	The encrypted (item 3) password of the schema owner
db.runtimeuser.name	Name of the runtime user (can be same as schema owner)
db.runtimeuser.password	The encrypted (item 3) password of the runtime user (can be same as password of schema owner)
db.type	Provide type *postgres*
db.host	Hostname of the database
db.port	Port used by the database
db.instance	Name of the database
db.url.postgres	There is already a default value provided. Only change this if you know what you are doing.
db.url	Change to `${db.url.postgres}`

7. Execute `software/installdb/diffdb compare` and afterwards `software/installdb/diffdb apply` to have the BIS schema applied to the database.

8. Restore data by executing script `software/db/restored -wd <backup directory from item 2>`

9. Additionally entries in database table `tDSAccounts` must be updated to point to the new database. Execute following SQL script in order to change the data:

```
        UPDATE tDSAccounts SET
cConnectionURL='<NEW_CONNECTION_URL>', cUser='< NEW_USER>',
cPassword='<ENC_PWD>' WHERE cID='<DS_ACCOUNT_ID>';
```

Parameter	Description
<NEW_CONNECTION_URL>	The URL to the database. Check property `db.url.postgres` in file `etc/update.properties`.
<NEW_USER>	Name of the new runtime user.
<ENC_PWD>	Encrypted password of the runtime user.
<DS_ACCOUNT_ID>	All DS_ACCOUNT_IDs that point to the old database.

10. To enable the changes done in update.properties, execute script `bin/update -c`

11. Start BIS and search for any warnings or errors in `bis-server.lgw`

Switching to PostgreSQL (BIS 6.5.2 to 6.7)

It is possible to install a new parallel BIS 6.7 and import data from the still running BIS 6.5.2 into a new PostgreSQL database.

Following steps must be performed:

1. Configure database as described in SEEBURGER *SystemDatabases* manual.
2. Do a fresh BIS 6.7 installation.
3. Backup data from BIS 6.5.2 by executing `software/backupdb`
4. Copy backup data from BIS 6.5.2 to `software/db` folder in BIS 6.7

5. Remove backup files `tFilesystem` and `tDSAccounts` from backup directory.

6. Stop BIS 6.7

7. If you already started BIS 6.7 once, truncate all `rResRepo*` tables in PostgreSQL database.

8. Restore data by executing script `software/db/restoredb -wd <backup directory from item 5>`

9. Start BIS 6.7 and search for any warnings or errors in `bis-server.lgw`

Updating 6.5.2 with 6000P7/6025P7

Before migrating to BIS 6.7 you most likely have to update 6.5.2 to a newer version. If one of the articles 6000P7 or 6025P7 was installed before, you have to remove them before migrating to BIS 6.7.

After the BIS 6.5.2 update and removal of the articles, access to BIS Front-end is broken with *404 Not found* from http listener. The app still points to the Smarti-based URL. To fix that, do following steps:

1. Stop BIS

2. Extract `data/bisapp.zip` into BIS home.

3. Execute `software/register.{bat,sh}`

4. Start BIS

The new apps should now be available in portal7

Importing BIS + B2Bportal to Installation Server (WebInstaller/BIS LM)

First step in starting the migration process is to install the Installation Server (WebInstaller or BIS Landscape Manager) and import the existing instances.

There is a restriction that systemIDs must be unique. Because BIS and B2Bportal cannot be in the same system, they always need separate system IDs.

While importing your systems into the Installation Server always check the systemIDs (`software/profile.properties`). If they are unique, proceed with importing. If they are not unique, do following steps:

1. Update `software/profile.properties` and change the systemID.

2. Execute script `software/register.{bat,sh}`

3. If you have to change the system ID for a system that already includes UMS, you must also update two UMS related database tables with the following database statement

```
        UPDATE tums_applications SET cbissystemid = 'newSystemID' WHERE cbissystemid =
'oldSystemID';

UPDATE tums_businessservices SET cdefaultfoldername = REPLACE(cdefaultfoldername, 'oldSystemID',
        'newSystemID');
```

5 Change History

This chapter describes revisions of the BIS installation media since initial release.

Release	Release Date	Revision	Details
BIS SP110	2022-10-11	12.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 12.0" in the *BIS Changelog* document. Furthermore, the following fixes are included: • [issue_r#147287] [HTTPLISTENER] Request not executed • [issue_b#139440] Solution Installer: register TPM only for current LS
BIS SP110	2022-08-03	11.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 11.0" in the *BIS Changelog* document. Furthermore, the following fixes are included: • [issue_r#139198] Bump Java Version 1.8.0_342_8.64.0.16 • [issue_r#139198] Bump Java Version 11.0.16_11.58 • [issue_r#138715] com.seeburger.portal:portal-cas:2.127.7 • [issue_b#98781] solution:install: change installation
BIS SP110	2022-05-05	10.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 10.0" in the *BIS Changelog* document. Furthermore, the following fixes are included: • [issue_b#101211] Finding a custom XPath class fails with April Java • [issue_b#100593] Article 6000P7 activates ums bundles on non UserManagement instances • [issue_b#100503] Promised to ship 110 Revision without log4j1 1.2.17
BIS SP110	2022-02-15	9.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 9.0" in the *BIS Changelog* document. Furthermore, the following fixes are included:

Release	Release Date	Revision	Details
			• [issue_b#100503] Updated hawtio to version without log4j-1 • [issue_b#99102] com.seeburger.blm:1.56.6
BIS SP110	2022-02-08	8.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 8.0" in the *BIS Changelog* document. Furthermore, the following fixes are included: • [issue_b#100004] BACKPORT: HTTPListener Process authentication • [issue_b#100090] Log4J2 CVE-2021-44228 - Log4Shell-Remote code injection in Log4j
BIS SP110	2021-12-16	7.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 7.0" in the *BIS Changelog* document. Furthermore, the following fixes are included: • [issue_b#100004] BACKPORT: HTTPListener Process authentication • [issue_b#100090] Log4J2 CVE-2021-44228 - Log4Shell-Remote code injection in Log4j
BIS SP110	2021-12-06	6.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 6.0" in the *BIS Changelog* document.
BIS SP110	2021-11-16	5.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 5.0" in the *BIS Changelog* document. Furthermore, the following fixes are included: • [issue_b#99715] Task *** finished with error. ***register-common.xml:68: /opt/bis/home/data/portal7 does not exist
BIS SP110	2021-10-06	4.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 4.0" in the *BIS Changelog* document.
BIS SP110	2021-08-20	3.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 3.0" in the *BIS Changelog* document. Furthermore, the following fixes are included: • [issue_b#98767] 6.7 update fails when symlinks are used • [issue_b#98737] Function target-node-count() computes incorrect values • [issue_b#98813] Connection handling not thread-safe • [issue_b#98969] SAP JCo osgi.exports not migrated when sidestepping from 6.5 to 6.7
BIS SP110	2021-08-02	2.0	Integrated several Hotfixes. For details, refer to chapter "Hotfixes included in: SP110 Rev 2.0" in the *BIS Changelog* document. Furthermore, the following fixes are included: • [issue_b#98488] Java 11 version update to zulu 11.50

Release	Release Date	Revision	Details
			• [issue_b#98488] Java 8 version update to zulu 8.56 • [issue_b#98583] Fixed wrong sysinfo during 6.7 migration • [issue_b#97447] Migration failed with Error connecting to queue toDtSFTPComponent on instance • [issue_b#98347] CM MailLink cannot be confirmed when counterparty not registered
BIS SP110	2021-06-18	1.0	Initial Release