

PRIME requirements and interoperability

This article provides installation requirements and interoperability data for [Nexus PRIME](#).

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This article is valid for Nexus PRIME 3.9.

Requirements

PRIME application server

Hardware

	Minimum	Recommended
Hard disk storage	5 GB <div style="border: 1px solid #f0e68c; padding: 5px; margin-top: 5px;">The application generates log files, which consumes additional hard disk space.</div>	
CPU	2 GHz	> 2 GHz
RAM	8 GB	16 GB

The sizing requirements listed above are only recommendations for a default setup. The sizing may differ, for example depending on the following things:

- Number of concurrent users in the PRIME applications.
- System architecture: for example high availability setup, combined or distributed setup of the PRIME applications.
- OS footprint: different operating systems consume different RAM/CPU loads.

It is recommended to host the application server and the database server in the same data center (but on separated servers). Connecting a PRIME application server to a database server via a WAN connection would mean higher latencies and would affect the performance of the system.

Operating systems

The following operating systems are supported:

- Windows 7, Windows 8/8.1, Windows 10 (Client OS not recommended for production environment)
- Windows Server 2008 (recommended: 64-bit version)
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2

Related information

- [Card SDK requirements and interoperability](#)
- [PRIME installation and upgrade](#)

- Windows Server 2016
- Linux and others on request

Software

The following software is supported:

- Oracle Java JDK/JRE:
 - Version 8.0 (32-bit and 64-bit) , Update 191 or higher
- OpenJDK
 - Version 11 (64bit), Tested on OpenJDK 11.0.1
- Application Server:
 - Apache Tomcat 8.5 and 8.0
 - IBM Websphere 8.5.5.11 (we expect Websphere expertise at the customer, Nexus does not offer integration services for deployment Websphere)

Required ports for Tomcat

On the Apache Tomcat at least two ports are required, one for HTTP and one for HTTPS. Tomcat default ports are 8080 (HTTP) and 8443 (HTTPS). To avoid port collisions, the PRIME distribution package is preconfigured with 18080/18443. The port numbers can be configured in the configuration file `server.xml`. Technically, it is not necessary to use HTTPS, but it is highly recommended.

PRIME database server

Hardware

	Minimum	Recommended
Hard disk storage	~ 1 MB per person record with photo	
CPU	2 GHz	> 2 GHz
RAM	4 GB	8 GB

It is recommended to host the application server and the database server in the same data center (but on separated servers). Connecting a PRIME application server to a database server via a WAN connection would mean higher latencies and would affect the performance of the system.

Databases

The following databases are supported:

- SQL Server 2008 and 2008 R2
- SQL Server 2012 and 2012 R2
- SQL Server 2014 and 2014 R2
- SQL Server 2016
- SQL Server 2017
- Oracle Database 11g
- Oracle Database 12c
- PostgreSQL 9.2 – 9.6
- IBM DB2 10.5

Operating systems

All operating systems that can host the above databases are supported.

PRIME client workstation

Web browsers

All PRIME applications (Designer, Explorer, Tenant and User Self-Service Portal) are executed in up-to-date HTML5 web browsers such as:

- Mozilla Firefox
- Google Chrome
- Internet Explorer 11
- Safari
- Microsoft Edge

Hardware

	Minimum	Recommended
Hard disk storage	~ 100 MB for Nexus Card SDK installation <div style="border: 1px solid yellow; padding: 5px; margin-top: 10px;">Nexus Card SDK is only necessary on a capture or production client.</div>	
CPU	2 GHz	> 2 GHz
RAM	4 GB	> 4 GB

Operating systems

The following operating systems are supported:

- Windows 7 (32- and 64-bit versions)
- Windows 8 / 8.1 (32- and 64-bit versions)
- Windows 10
- Linux (for clients without image capture, printing and encoding)

Mobile device platforms

Platforms of mobile devices, for example iOS, Android, and Windows RT, are only supported by certain functions of the browser-based Nexus PRIME USSP, but cannot be used with Nexus PRIME Designer and Nexus PRIME Explorer.

▼ Software

The following software is supported:

- Oracle Java JDK/JRE:
 - Version 8.0 (32- and 64-bit), Tested on JRE 8 Update 191

The required application server port on Tomcat must be open to allow clients to access the network, or alternatively different ports. See **Software**, in [PRIME Application Server](#).

▼ JasperReports

The following version of JasperReports is supported:

- Templates in JasperReports format (.jrxml) version 6.5.1 are supported

▼ Capture or production client: Card SDK

If a workstation is used as a capture client or production client, the [Nexus Card SDK](#) application must be installed and licensed.

This requires a Windows-based workstation (PC). For complete [installation requirements for Card SDK](#), see the Nexus Card SDK documentation.

The following version is required:

- Nexus Card SDK Version \geq 5.3.0.87 or Card SDK Version 5.4

▼ Capture or production client: PKI cryptochip encoding

For cryptochip encoding, such as smartcards and USB tokens, PRIME relies on the PKCS#11 interface.

The following requirements apply:

- A PKCS#11 compliant smartcard middleware is required. For a list of supported smartcard middleware, see [Smartcards and smartcard middleware](#).
- The smartcard middleware and client-side Java JRE must have the same OS architecture, either 32-bit or 64-bit, since PRIME Explorer and USSP connects from the client-side Java JRE to the middleware.

▼ User Self-Service Portal client: Software

If certain smartcard functions are used, for example card unblocking or certificate renewal, the following software is required:

- Oracle Java JDK/JRE:
 - Version 8

The Java Webstart component will be loaded on startup of the USSP.

▼ User Self-Service Portal client: Root certificate

A trusted root certificate is required on a USSP client, for encrypted client communication.

Interoperability

Data connectors

Corporate directories

PRIME supports connection to directories compliant with the following standard:

- LDAP v3

Microsoft Active Directory is a typical example of a supported directory.

JDBC databases

PRIME supports connection to databases based on Java database connectivity (JDBC).

The following databases are supported:

- Microsoft SQL (MSSQL) Server 2008/2012/2014/2016/2017
- Oracle 10/11/12
- PostgreSQL
- H2
- IBM DB2 10.5

Certificate authorities

The following certificate authority (CA) products and services are supported:

- [Nexus Certificate Manager 7.17](#)
- Microsoft Active Directory Certificate Services (ADCS) 2008/2008 R2 / 2012 / 2012 R2 / 2016
- D-Trust Managed PKI
- IDNomic version 4.8.1
- EJBCA Version 6.3 (without Key Backup/ Key Recovery)
- DFN Managed PKI
- QuoVadis PKI

Other CAs can be integrated on demand.

Physical access control systems (PACS)

These are the different levels of PACS integration in PRIME:

Basic PACS integration

- Integration via standard data connectors, such as CSV files, JDBC, LDAP, and SCIM
- Export of card data to PACS at card activation and deactivation

All PACS systems that can use any of the standard data connectors are supported.

Full entitlement PACS integration

Full entitlement PACS integration is included as part of the Physical Entitlement Management module in PRIME:

- Integration via standard connectors in PACS backend
- Online sync of card data and access profiles
- Virtual access profile groups on top of PACS access profiles
- Updates of access profiles can be separated from card issuing

The following PACS systems are supported:

Vendor	System	Supported versions
ASSA	Arx	4.1
Siemens	Bewator 2010 Omnis	6.2
Bravida	Integra	7.0
Evva Salto	SALTO	12.2
dormakaba	KABA Exos 9300	4.0
Lenel	OnGuard	6.6
Pacom	Unison	5.8.6
RCO	RCARD M5	5.x
Stanley	Stanley Security Manager (SSM)	8.0, 8.1
Stanley	Niscayah Integration Manager (NIM3)	3.40
Unitek	Unilock	2.0

For some PACS systems you need an additional license to do this integration. Contact your PACS vendor for more information.

Contact us!

Is your PACS system not on the list? Provide the details of your PACS system [in this form](#) and we will contact you.

Mobile device management (MDM)

The following mobile device management (MDM) product is supported:

- MobileIron 9.1

Other MDM systems can be integrated on demand.

Smartcards and smartcard middleware

Smartcards and smartcard middleware

Supported smartcards depend on the smartcard middleware. Smartcard middleware is not part of the Nexus PRIME product.

PRIME connects to a smartcard via the PKCS#11 library provided by the middleware. For a list of supported cryptochips and smartcards, please refer to the corresponding technical specification of the middleware.

CardOS 4.4 and CardOS 5.0 are our reference cards for testing. Other cards listed in the middleware specification also normally works, but must be tested individually for the specific requirement.

The following smartcard middleware products are supported:

Vendor/ Product	Version	Reference Card
Nexus Personal Desktop Client	V 4.29	CardOS 4.4 + 5.0
AET SafeSign	V 3.0.93	CardOS 4.4 Neowave Weneo
Atos CardAPI	V 5.4	CardOS 4.4 + 5.0 + 5.3
Charismathics CSSI	V 5.4	CardOS 4.4 + 5.0 TPM
Cryptovision cv act sc/interface	V 7.0.5	CardOS 4.4
Gemalto IDGo800 Pkcs#11 Library	V 1.2.4	IDPrime MD 830
Morpho Ypsid	7.0.1	Ypsid S3
Oberthur AWP	V 5.1.1	V 7.0.1
Safenet Authentication Client	10.2	IDPrime MD 840

Virtual smartcards

Virtual smartcards

The following virtual smartcard is supported:

Vendor/ Product	Version
Nexus Personal Desktop App	V 1.0

Language support

Language support

The following languages are supported:

- English
- French
- German
- Swedish