Russian IT Solutions

Astra Group of Companies

Content

Astra
Group of
Companies

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- **Saint Petersburg**
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- **Vladivostok**
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- Offices in operation
- Preparing to open
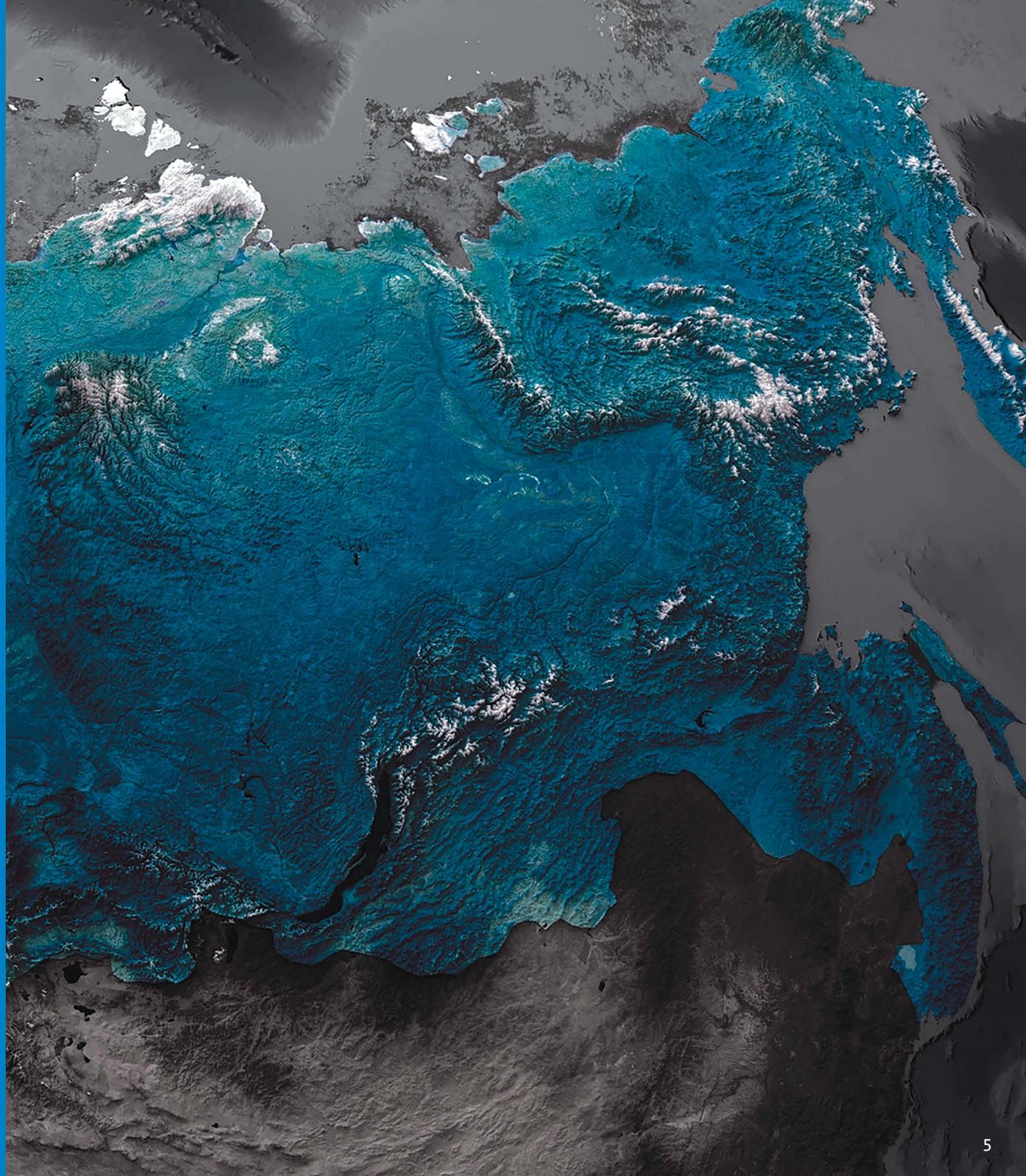
Astra Group of Companies

The Astra Group of Companies is one of the leaders on the Russian IT market in software (SW) and information security tools (IST) development. Now the team employs over 1,000 highly professional developers and technical support employees. The Astra Group software products are used by government and commercial organizations having 5 members of staff or more, state corporations and concerns, industrial enterprises and critical information infrastructure facilities.

Mission

Provision of technological sovereignty of Russia and its leadership on the global IT market through development of basic information technologies, general and special software and creation of a large-scale ecosystem of Russian software on their basis

Strategic objective

By 2030, become a global system software vendor meeting market demand for specialized and general solutions and creating unified IT standards

ASTRA

ALD Pro ASTRA LINUX® WorksPad RuPost

ASTRA AUTOMATION BREST Astra Consulting tantor

billmanager TERMIDESK dcimanager RuBackup vmmanager

File storage and sharing   Monitoring   Cloud provider   Application Services   Application delivery services   DBMS

SSO   Installation and update service   Containerization   Corporate business applications   Corporate communications

ASTRA Group Ecosystem

The Astra Group forms a stack of system and application software, as well as services comprehensively covering customers' needs in infrastructure creation and design.

The ecosystem is based on Astra Linux, a Russian certified operating system that is secure, scalable and optimized for high loads. The vendor's portfolio also contains virtualization, domain management and backup tools, VDI, infrastructure platforms, corporate mail and a mobile workstation.

One of the key areas of work is automated deployment tools to creatie scalable IT systems and solve complex architectural problems with minimum resources. Astra Group's software stack is booming through its own development and investment in teams with achievements in IT landscape monitoring systems, containerization, migration tools, data, user and resource management tools.

The group of companies creates a reliable environment for addressing a multitude of challenges
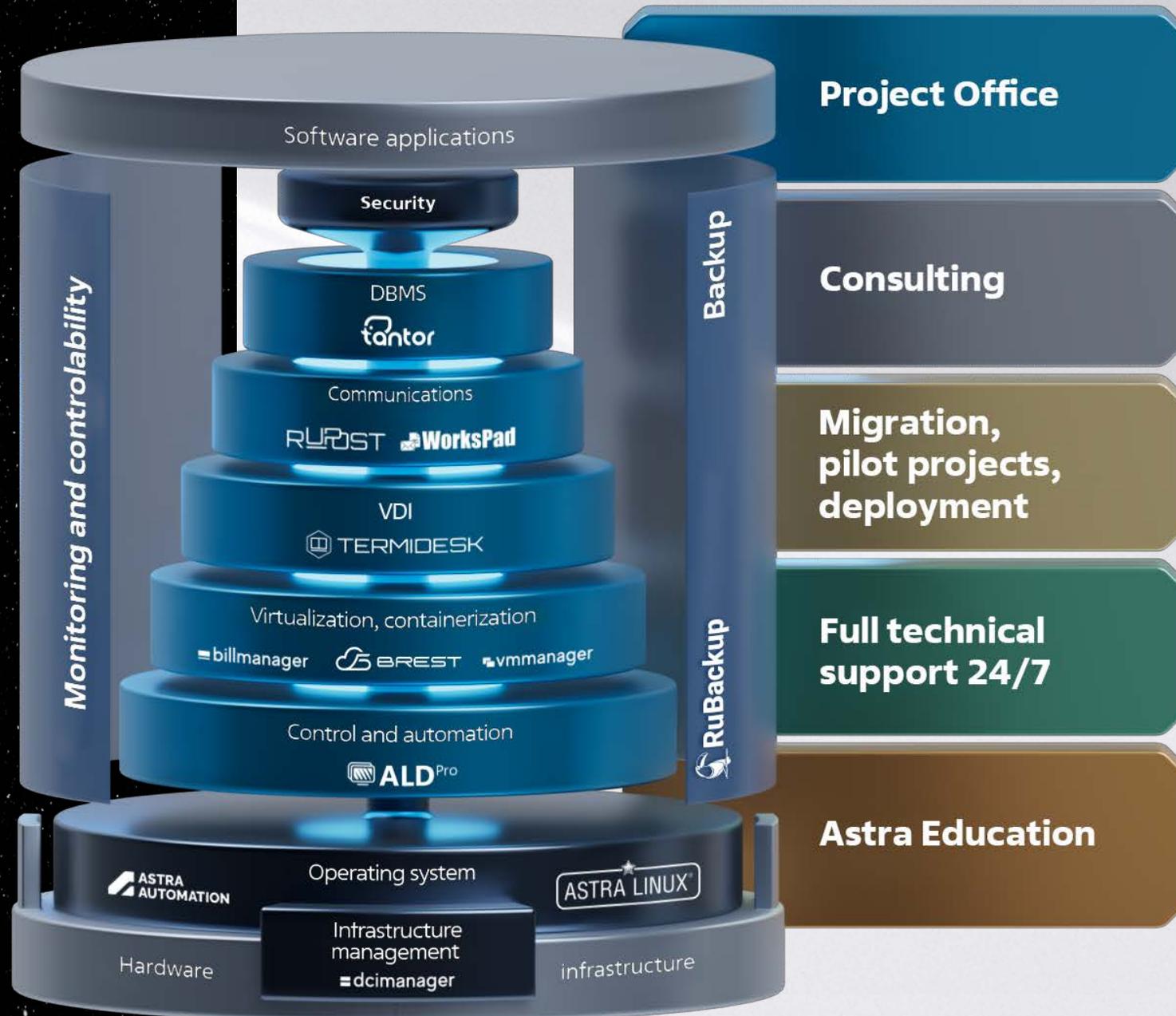
ASTRA LINUX®

Astra Linux Special Edition
A Russian operating system with
the built-in proprietary information
security tools

Server

For server application. it contains a
complete set of components to deploy
the organization's server infrastructure.
Settings and a set of the installed
software determine specialization
of the system

Desktop

To create automated workstations
(WKS). It is suitable for most everyday
tasks: office work, viewing multimedia
content, and working with applications
requiring the use of graphics cards

Mobile

For tablets and other mobile devices.
It contains the same integrated
security tools as a desktop version,
and allows you to use a tablet as a
regular computer when connected to
peripherals* and switching its interface
to a classic desktop mode

*Monitor+keyboard+mouse/docking station/usb-hub

ALD Pro

Automation and centralized management of computers and users' accounts, departmental hierarchy and group policies, as well as application services (mail, print servers, etc.)

RUPOST

Corporate mail management. Includes a library of specially designed and tested configuration templates, a clustered server to build a scalable fault-tolerant corporate mail system, a single control panel — from system deployment to establishment of mailboxes and component status monitoring

TERMIDESK

Virtualization of desktops and applications on various virtualization platforms. The main purpose is life cycle automation of virtual desktops and organization of their secure delivery to users, using various remote desktop protocols

BREST
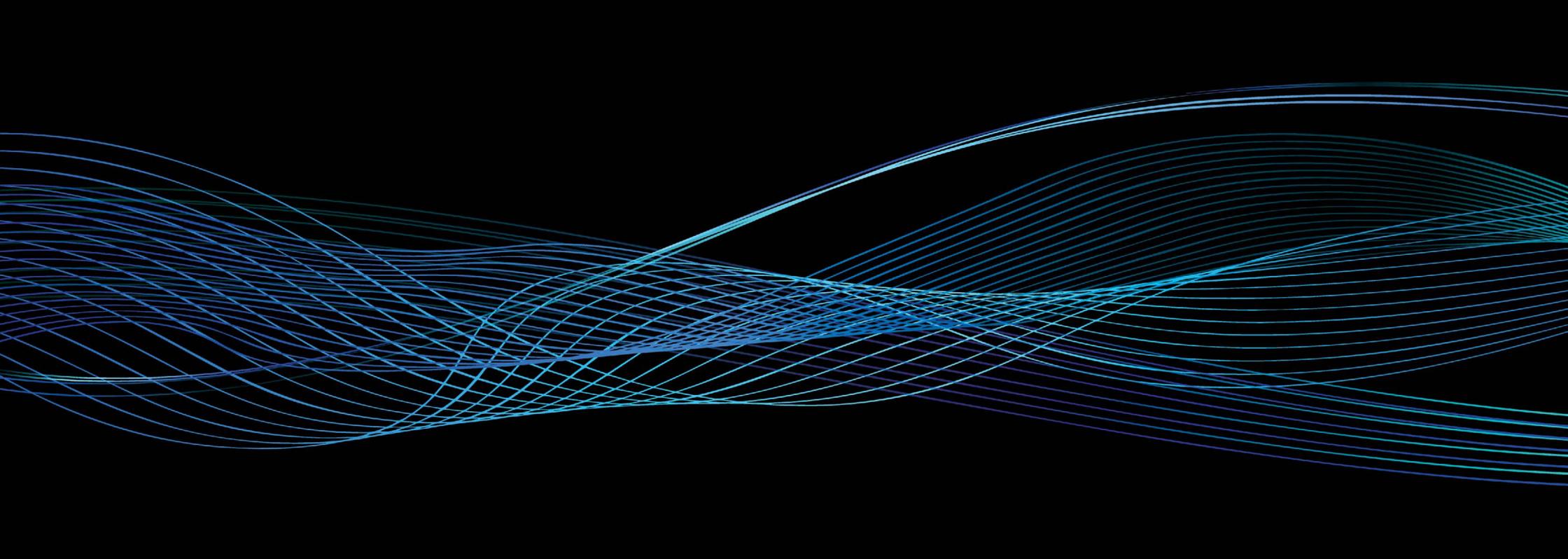
Management of a cloud virtual infrastructure of any complexity using the entire range of information security tools of the Astra Linux Special Edition operating system. For IT systems of different purposes, including the systems processing restricted access information

vmmanager

Building and managing a server virtual infrastructure on the customer's physical equipment. The platform allows you to deploy a multi-level infrastructure of a software-defined Data Processing Center (DPC), using both hardware and container virtualization

WorksPad

Organization of the employees' secure mobile work on smartphones and tablets based on iOS and Android. Provides a high data protection level and prevents data leakage by installing a container application controlled by a client company on a mobile device with customizable security and encryption policies

tantor

Database management system (DBMS) and a full-featured modular platform for administration and monitoring of PostgreSQL clusters with a single and convenient graphical interface

dcimanager

Work with physical infrastructure. Management of multi-vendor equipment, its accounting and status control in a single web- interface

RuBackup

Automated data backup and recovery of virtual machines, databases, physical servers, data processing centers, DPCs and cloud services

billmanager

Service delivery automation. Allows you to automate their issue, conduct financial transactions and prepare financial and management reports

Operating system Astra Linux Special Edition

The Russian operating system with the built-in proprietary information security tools that allows you to process classified information from personal data to the state top secrets

Astra Linux Special Edition is the No. 1 operating system in Russia, one of the most popular distributions for import substitution as it has technical support throughout the entire life cycle and a wide ecosystem of compatible solutions.

2,500,000+ installations by 15,000+ customers provide Astra Linux with over 75,9 % of the domestic OS market*.

*according to Cnews.ru

Virtualization

Integrated OS components for virtualization and containerization

Repository

Own repository 20,000+ packages

Work with SIS

Ability to work with state information systems (SIS) and trading platforms

A single platform for all types of devices and processor architectures

The only operating system in the country that meets information security requirements of the market regulators: the Ministry of Defence of Russia, the Federal Service for Technical and Export Control of Russia and the Federal Security Service of Russia (FSS)

smartphones   tablets   laptops   thin clients   secure special solutions   workstations   servers

X86-64   Arm   VLIW   RISC-V
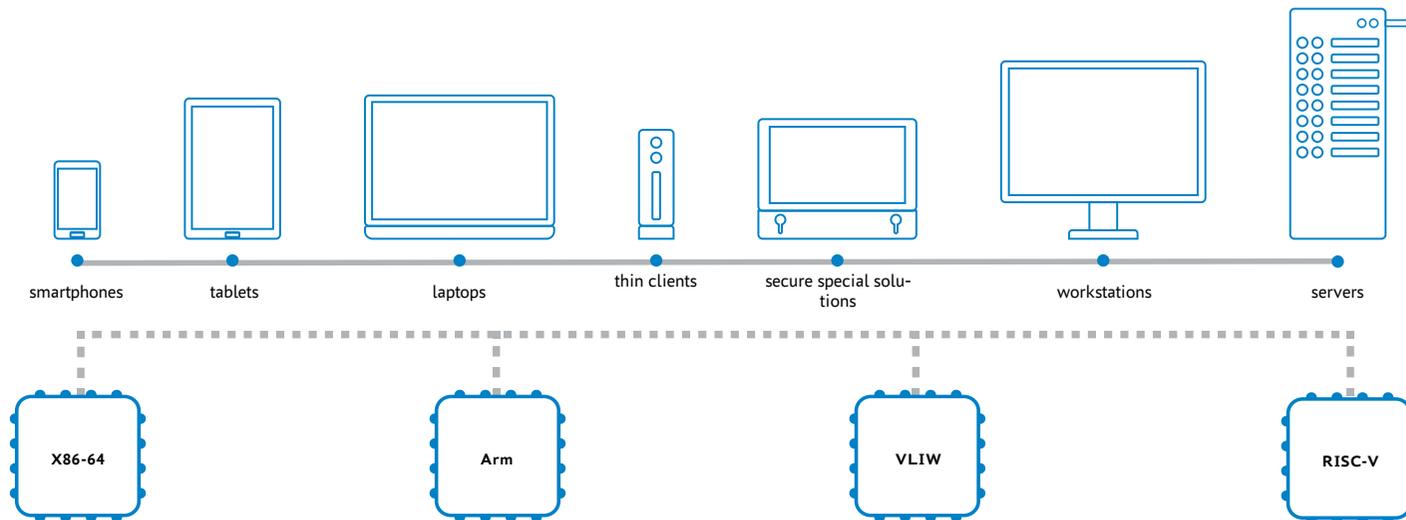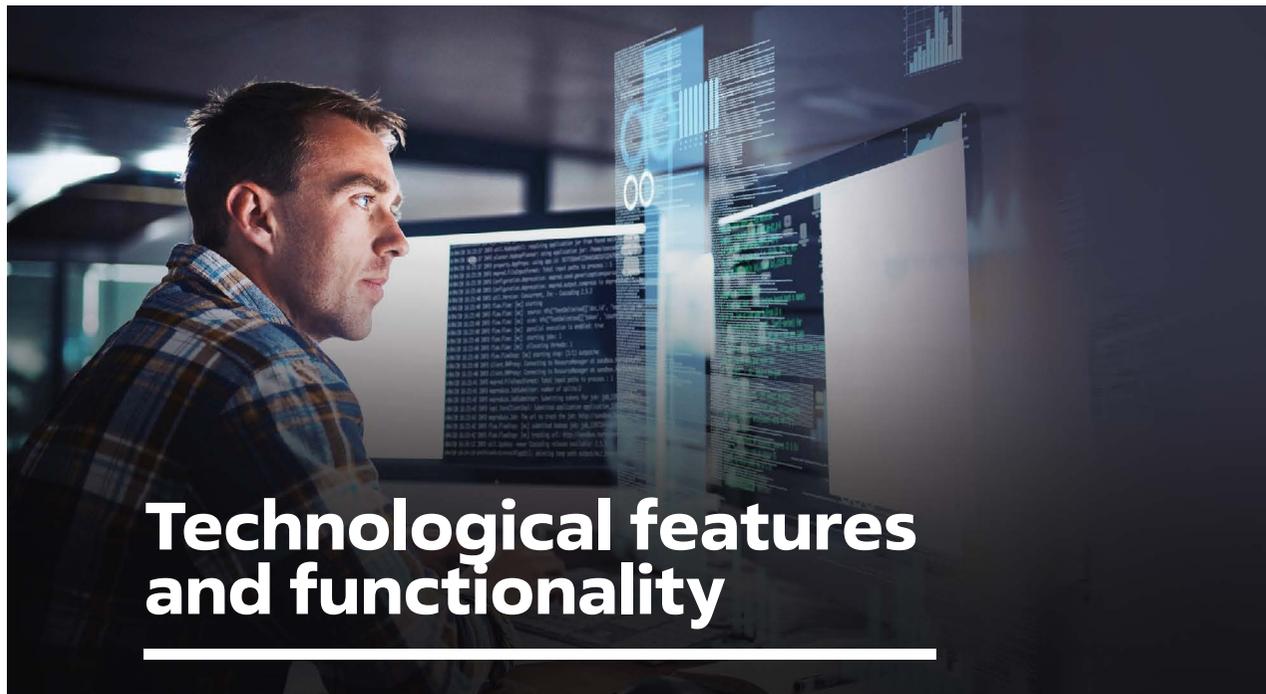
Technological features and functionality

Information security tools

- Mandatory access control

- Access separation by integrity levels assigned to users, resources and data

- Verification of digital signature of executable files, libraries and drivers before running them

- Removable media access control

- Program isolation in the allocated memory area for access only to the specified resources

- System event logging

- Integration of secure graphics subsystem applications with certified cryptographic information protection facilities (CIPF)

- Application of the entire suit of information security tools (IST) of the operating system when creating and using virtual environments

Key features

Maximum security is the main feature of Astra Linux. Installed "out of the box", it neutralizes the main threat scenarios and reduces severity of consequences of their implementation even without installing special software: antivirus software, firewall, etc.

- Stops malware attempts to infiltrate the system under the guise of regular programs

- Does not allow uncontrolled connection of flash cards, hard drives and other removable storage media, as well as

- Transferring data to and from the system

- Prevents malicious actions of both employees and system administrators by separating not only users' accounts, but also resources and data by levels of integrity

- Prevents data spoofing and other unauthorized changes

All this is possible thanks to the information security tools built into Astra Linux.

Astra Linux Special Edition does not require the use of most of the imposed protections and is optimally suited for organizing secure workstations and server infrastructure, and the ability to quickly make changes to the product guarantees protection against the latest threats

Scope of application

- State information systems and trading platforms
- Information systems for personal data processing
- Components of critical information infrastructure

- Computing systems for processing confidential commercial, banking and official information
- Systems for work with classified information, including the one of top secret
- Secure virtualization systems
- Large-scale and distributed IT infrastructures

Solved problems

- Implementation of digitalization plans and import substitution
- Migration to secured software running in the background
- Increase of reliability, fault tolerance and performance of IT infrastructures with maintenance of the available hardware landscape
- IT security provision
- Building the heterogeneous systems
- For a simultaneous use of Astra Linux and Windows OS when migrating to the this platform
- Building correct operation of the electronic document management systems (EDMS) for users of Astra Linux and other operating systems

- Centralized management of IT systems of any scale
- Protection against unauthorized viewing, modification and data leakage
- Access control to resources, information and software
- Protection against vulnerabilities and malware
- Creation of secure virtual environment with a set of security tools of OS Astra Linux Special Edition

Security Modes

Restricted access information protection is provided in accordance with the Russian legislation requirements and established by federal executive authorities.

In particular, when designing security systems in state and information systems of personal data, at critical infrastructure facilities and in automated production and process control systems, composition and content of data protection measures are determined by the requirements of the Federal Service for Technical and Export Control of the Russian Federation.

The basic security level of the non-certified Oryol operating system is recommended for home use on PCs and laptops. It cannot be used in corporate systems, as well as for processing of restricted access information, which is subject to information protection requirements.

Designing of Information protection system and selecting of the certified protection means are carried out according to their compliance with the protection class of information security system and security category of information system, as well as the need to level threats taking into account all structural and functional characteristics, data processing modes, applied information technologies, etc.

OS Astra Linux Special Edition is certified according to the highest requirements of information security and allows you to reliably protect both open (public) data and any restricted access information, including state secrets.

Depending on the peculiarities of data storage and processing in the system, as well as on the current security threats, the following security levels of the certified platform are available:

Enhanced
licensing option - Voronezh

- Protection against threats by means of closed software environment (CSE). These tools ensure the run of only trusted software the integrity of which is not violated.

- Protection against unauthorized modification of files critical to the information security system through the use of mandatory integrity control (MIC), including the case of possible unauthorized increase of user privileges or "zero-day" threats.

Maximum
licensing option - Smolensk

- Protection against confidentiality threats by means of mandatory access control (MAC) taking into account categorization of information by confidentiality degree or access levels. This protection includes all tools from the Enhanced level.

	Voronezh Enhanced	Smolensk Maximum
Mandatory access control	✕	✓
Security mechanisms for database management systems (DBMS) and virtualization tools (VT)	✓	✓
Mandatory integrity control	✓	✓
Discretionary access control	✓	✓
Role-based access control	✓	✓
Kiosk mode — a "white" list of applications allowed for running	✓	✓
Correct work with an electronic signature - lack of impact on the CIPF functioning is confirmed by the FSB of Russia	✓	✓
Additional isolation of virtualization components and Docker containers (a separate integrity layer)	✓	✓
Dynamic integrity control (a closed software environment)	✓	✓
Security event logging	✓	✓
Connection control of removable storage media	✓	✓

Desktop Astra

Free work with multimedia and office software for effective communication of public sector and corporate infrastructures

- Safe and comfortable work with government and medical information systems due to proven compatibility

- Intuitive "FLY" graphical interface with adaptive settings and new utilities for administrators and users facilitates migration from foreign manufacturers' familiar solutions

- Recognizable and similar to the "Start" menu for quick and easy software run, search in the operating system and going to the control panel

- A two-panel file manager with the ability to calculate checksums to check integrity of files

- Administration tools for a centralized access to system settings and management of security policies

- Convenient management of virtualization through a graphical interface with command line support

Many built-in applications for daily work

- Database management systems

- Email

- Software packages for mail and web servers

- Backup applications

- Office programs

- Tools for work with multimedia and images

- Support for a wide range of third-party software and hardware through the Technology Partner Program Ready for Astra*

*More details on pages 30-31

Office suite as part of Astra Linux

The basic set of Astra Linux OS applications includes the LibreOffice office suite containing the editors for all common formats of documents and their analogues.

Astra Linux includes LibreOffice office software. The OS is also compatible with Russian analog of MS office (MyOffice, R7-Office) and other packages.

MyOffice

P7-ОФИС

LibreOffice

Astra Linux supports open document format ODF (ISQ/IEC 26300:2006).

Astra Group is a member of non-profit organization The Document Foundation. This allows making an impact on development of the LibreOffice software package in terms of debugging and implementing new functionality.

As part of the import substitution policy implementation, Astra Group of Companies have created publicly available Russian fonts RT Astra Sans, RT Astra Serif and RT Astra Fact — full-fledged metric analogues of western Times New Roman, Arial and Verdana.

Writer
Text editor
Proprietary *.odt file format

Supported formats:
*.docx, *.doc, *.rtf, *.txt

Impress
Presentation editor
Proprietary *.odp file format

Supported formats:
*.pptx, *.ppt, *.pps

Calc
Spreadsheet editor
Proprietary *.ods file format

Supported formats:
*.xlsx, *.xls, *.dbf, *.csv

Draw
Graphics editor
Proprietary *.odg file format

Supported formats:
*.vsd, *.jpg, *.gif, *.png, *.bmp, *.tiff, *.eps

Built-in tools for work with PDF files

Astra server

An operating system working with necessary hardware and components, which is adapted to work under high loads and ensures a smooth operation of organizations' IT infrastructure. A reliable platform for the entire ecosystem of Astra products.

Advantages

Server components included by default for IT infrastructure management according to work scenarios familiar to system administrators

Adapted for specific high loads in storing, processing and transmitting large amounts of data
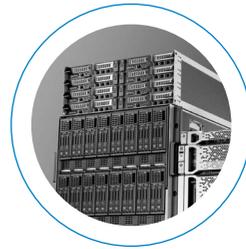
Ready-made and well-established mechanisms for automated deployment of IT systems, in a few clicks, and their maintenance

Virtualization and containerization for maximum flexibility

Experts of specialized technical support are able to solve issues of any complexity

Server load

Deployment options are optimal
for a variety of work scenarios

- Domain controller
  and user management

- Mail Server

- File Server

- Application Server

- Web-loads

- OLTP, OLAP
  and mixed workloads

- Data backup and recovery

- Virtual container loads

- Traffic management

Server Components

- Secure virtualization stack

- Centralized configuration
  management tools

- Secure container runtime
  environment

- Support for many types
  of modern DBMS

- Built-in event logging tools

- Dynamic change of kernel
  parameters and monitoring
  of its loading

- Failover and clustering tools

- Load balancing tools

- Tools to develop and run
  application software

- Technical support
  for server components

Image Library

Includes disk and container images with Astra Linux OS in a minimal configuration ready to run in various virtualization and containerization systems

- Contains recommended generic OS configuration optimizations

- Released for all supported Astra Linux updates

- Graphical user interface (GUI) and non-GUI options available

- Supported and recommended as the "golden images" used at an enterprise, or as a starting point for their creation
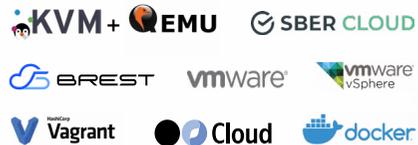
Role Library

A group of repositories with Ansible roles created specifically for Astra Linux OS, which allow automatic configuration of components in accordance with the specified requirements

- Adapted for Astra Linux

- Support all current platform updates and are tested with the Image Library

- Developed and maintained by one team with common approach, logic and code style

- Accompanied by a container image already including the required version of Ansible, Python, and all required collections and modules

Infrastructure Code Library

An approach to describing the finished infrastructure through a code without necessity to install additional management tools on users' computers

All code

- Tested on the systems in operation

- Presented as repositories

- To run on the control computer, only Docker is required

- Can be integrated with popular CI/CD systems and AWX

Platform for automated deployment and maintenance of IT infrastructure based on Astra products

ASTRA AUTOMATION

Allows deployment of an OS server with a set of necessary software of Astra Group from ready-made templates as simply and quickly as possible, without deep knowledge of Linux, in just a few clicks
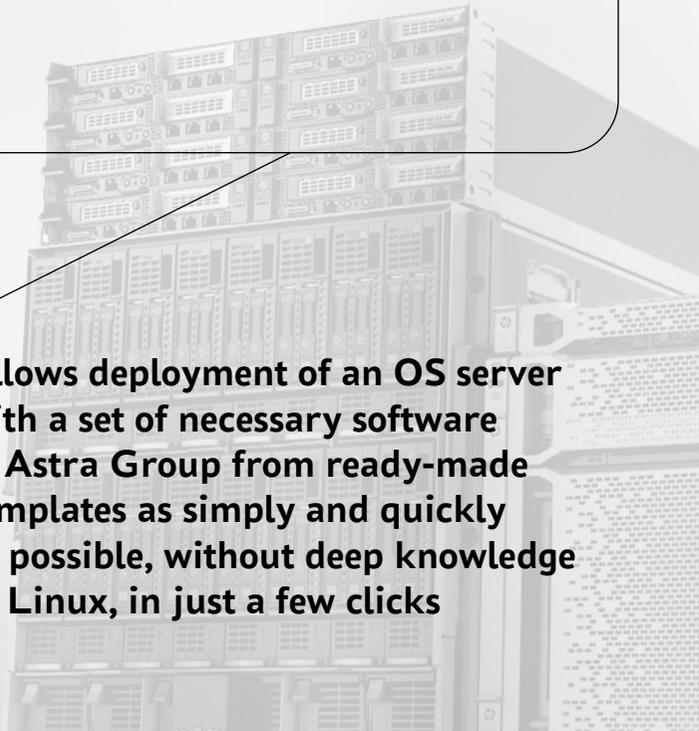
Containerization

Provides maximum flexibility without the overhead of hardware emulation and performance degradation

- Supports work in privileged and non-privileged modes

- Works with major containerization technologies (Docker, CRI-O, containerd)

- Compatible with Russian solutions (Deckhouse, Steering Wheel)

- Contains tools for management of container life cycles

Server and application virtualization

Provides maximum flexibility without sacrificing performance, security or reliability

- Virtualization mechanisms integrated into information security tools

- Work with network components improved and optimized

- Ability to deploy complex storage configurations through Astra Automation

- Prompt update of all components (KVM, Qemu, libvirtd)

Astra mobile

An operating system adapted to smartphones, tablets and other mobile devices designed for mobile work of employees in a secure corporate IT infrastructure, as well as provision of correct functioning of necessary technologies, hardware and software components.

Advantages

- Special mobile interface adapted to touch screens and small diagonals

- High level of information security by default due to built-in information security tools

- Fleet of mobile OS devices can be centrally managed by Russian centralized management directory service ALD Pro

- Increases battery life of mobile devices through optimized power management

- Allows you to run applications for Android through the emulator, expanding this software ecosystem to the global one

- Allows you to connect a mouse, a keyboard and a monitor so that to work just as with a regular office computer

- Supports touch screens, cameras, microphones, NFC, 3G and 4G cellular modules, GPS and GLONASS technologies, etc.

- Does not require additional certification when operating with third-party CIPFs

Convenience for third-party developers

- Open Source

- Open API

- Competencies of the Astra Group development team

17:26
Monday, April 22

astra user

Password
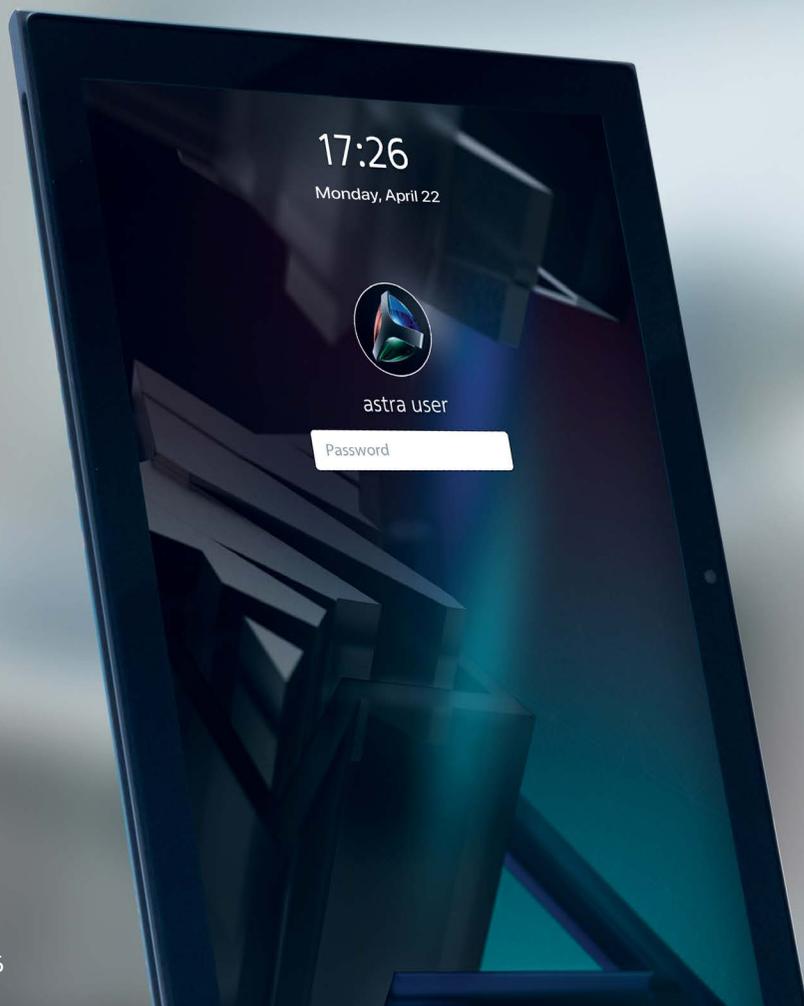
Tablets

Already now mobile Astra works on various devices of Russian equipment manufacturers, protected at the hardware level.

It is not a separate operating system, it is the same Astra Linux Special Edition distribution kit forwhich a mobile application method was selected during installation.

Corporate tablets

Advantages of Astra Linux on a tablet

- Repository — 20,000+ packages

- Ecosystem — 300+ compatible software products

- Processing information of any confidentiality level: from personal data to top secret

Industrial tablets

Scientific basis

Unlike other operating systems, Astra Linux Special Edition implements security features similar to the ones familiar to users of foreign operating systems. Proper use of this functionality allows you to achieve compliance with world standards of quality and security of information systems.

The scientific basis for this is formed by the department of scientific research of Astra Group of Companies in cooperation with the Institute for System Programming of the Russian Academy of Sciences (ISP RAS).

As a result of many years of research, a formal access control model has been developed, the provisions of which are implemented in the OS security tools. This model has been fully verified, which provided the highest trust level for the key OS mechanisms of mandatory integrity control and access control.

Astra Group of Companies is the first and so far the only Russian vendor which applying the methodology of developing a secure system software can offer something similar to scientific justification and confidence provision in OS security.

Based on these scientific developments, a new GOST R 59453.1,2-2021 "Information protection. Formal access control model" was approved in 2021, in which, among other things, an official definition of mandatory integrity control is given, for the first time in domestic standardization practice.

Astra Linux Special Edition is the only Russian platform with built-in verified domestic information security tools.

Scientific support for designing, developing and upgrading Astra Linux Special Edition is also aimed at ensuring compliance with the "Information Security Requirements" of the FSTEC of Russia for operating systems of type "A" (general purpose) and the "Information Security Requirements, establishing trust levels for information security tools and information technology security tools", approved by order of the FSTEC of Russia No. 76 dated June 02, 2020 .

As a result, compliance of Astra Linux Special Edition with the requirements of the highest (1st) protection class (trust level) in the certification system of the FSTEC of Russia was confirmed.

At present, Astra Linux Special Edition is not only the only operating system meeting the highest level of trust, but in general, the only software in the country certified according to these requirements, which additionally gives the user confidence in its quality.

Thanks to the built-in multi-level quality assurance system, the company's specialists are able to find and fix most of the errors and vulnerabilities in the software even at the stage of its development, as it is with the world market leaders. Only few IT companies in Russia can claim such accomplishments in ensuring credibility and quality of their products.

Development of a regulatory framework for the development and assurance of trust in system software

Analysis of system software vulnerabilities

Collection and analytical processing of the results of the analysis of the system software program code

Architectural analysis of system software

Methodology for developing secure system software

Development and verification of formal access control models

Static and dynamic analysis of system software code

Threat modeling for system software under development

Security trust system

To ensure a high level of trust in OS security, Astra Group specialists constantly conduct a wide range of inspections and a comprehensive testing of the product's program code. This allows you to quickly spot errors, vulnerabilities and violations of the logic of protection mechanisms. For quality control and program code verification, unique scientific and technical solutions and tools are used, both of our in-house development, and obtained as a result of partnership with the Russian Academy of Sciences.

Methods of automated, semi-automated and manual quality control of program code and documentation

1. Static and dynamic software code analysis
2. Analysis of known (confirmed) vulnerabilities in software, the information about which is contained in public sources of information
3. Fuzz testing
4. Tagged data tracking
5. Antivirus control

6. Penetration testing
7. Functional testing
8. Formal verification of the main functions based on mathematical description
9. Verification of the developed software documentation

ISP RAS license for Svace static analyzer and Crusher dynamic analyzer

Single GitLab software development server

License of NPO Echelon for static analyzer AK-VS 3.0

In-house developed vulnerability scanner

The company is sure that in the software:

- All known vulnerabilities and weaknesses are timely identified and addressed
- All declared functionalities are available
- Up-to-date and correct data on product operation is reflected in documentation

The user is sure that:

- The software will work properly and will not let you down at a crucial moment
- Information is secure
- Protection against external threats functions
- It is easy to set up the system correctly

Astra ecosystem. Software

READY FOR ASTRA

Active cooperation with multiple technology partners and a comprehensive technical support allowed Astra Group to create an ecosystem of compatible software and hardware solutions, which has a significant potential and is rapidly developing.

- Partner Program "Ready for Astra Linux" — saving resources, as well as comfort for customers and end users
- Mutual compatibility testing of software and hardware products
- A constant growth in the number of technology partners
- Technological cooperation with hardware and software manufacturers
- Universal end-to-end resources

500+ certified software products


Office software (30+)

Y | |
Р7-ОФИС | PROMT | MyOffice
COMMUNIGATE Pro | ABBYY

Videoconferencing system (15+)

IVA TECHNOLOGIES | TrueConf
GFI Software | KerioConnect
VIDEOMOST.com video conferencing server SDK | Vinteo

Tools for administration, security and information protection (100+)

kaspersky | SEARCHINFORM | Dr.WEB
КОНФИДЕНТ | infotecs Решения по защите информации | Эшелон комплексная безопасность
INFOWATCH | Аладдин

DBMS (25+)

T | redis | tantor
PostgresPro

Backup tools

RuBackup | Acronis

EDMS and ERP (20+)

TESSA | HAULMONT |
Directum | СВИТОК | 1C-рарус

Virtualization Tools (10+)

TERMIDESK | vmmanager
BREST | BASIS | ROS ПЛАТФОРМА

Specialized software (50+)

WinMachine | MultiPhysics | ИНФОЛЭНД
Luxms BI | waves ENTERPRISE | RAIDIX
Fast Reports Reporting must be Fast! | LIBERICA JDK |

CAD (10+)

T-FLEX CAD | BricsCAD | VariCAD
НАНОСОФТ

30

Astra ecosystem. Hardware

READY FOR ASTRA

PCs, all-in-ones, laptops, tablets (400+)

AQUARIUS · DEPO [computers] · iru · iCL · kraftway · РАМЭК · ГРАВИТОН · softline · ARBYTE · Lenovo · NERPA · ADVANTIX · iRobot

Servers (150+)

AQUARIUS · YADRO · DEPO [computers] · iru · kraftway · CRUSADER · AVEON · DELTA SOLUTIONS · HUAWEI · AERODISK · MAYAK · RESHIELD

Printers and multi-functional printers, scaners (400+)

EPSON · Lexmark · brother · KATЮШA · PANTUM · KONICA MINOLTA · KYOCERA · Canon · OKI · hp · xerox · F tech

Other peripheral devices (100+)

CyberPower · AVerMedia · ZEBRA · MultiSoft · ATEN

Computer accessories (2200+)

DEPO [computers] · ELITECH · iru · SK hynix · crucial · TOSHIBA · WD Western Digital · REALTEK · HUAWEI · matrox · ASRock · EDELWEISS · SAMSUNG · ADATA · Micron · NVIDIA · SEAGATE · Apacer · AQUARIUS · НОРСИ-ТРАНС · ГРАВИТОН · Transcend · iCL · intel · AMD · Rockchip · Mellanox

3 200+
units of certified equipment and accessories

ALD Pro

Centralized management of the Linux directory service through an intuitive interface

The system allows management of organizational units hierarchy, as well as users' settings and computer accounts using group policy.

This is the only solution on the world and Russian markets which allows you to manage directory service easily, quickly and without specific knowledge, using MS Active Directory (MS AD) tools familiar to administrators.

Transition phase
- Reduction of risks when migrating from MS AD to Linux-based due to the built-in tools
- Ability to set up two-way trust relationships and synchronize data with MS AD

Operation phase
- Centralized management via GUI
- Working with the system without scripts and programming
- Scalable and fault-tolerant product
- Functionality is wider than of other domestic solutions
- Extended technical support

Functionality
- Configuring domain and replication settings
- Setting up trust relationships with the MS Active Directory domain*
- Management of domain objects: computers, users and groups
- Support for other Linux-based OS domain login and user authorization
- Automated installation of OS and software over network on the domain computers
- Event logging and viewing of system logs
- Organizational structure hierarchy management
- Data migration from MS AD domain
- Creating and assigning group policy to computers and users
- Remote access to the domain users' desktops
- Self-configuration of group policy settings and other options

*For the period of migration, the system provides the ability to set up two-way trust relationships and synchronize data with MS AD

Implementation effects

Centralized Administration

Managing directory service and domain objects on Linux through a single GUI

No sanction risks

Use of Russian solution reduces dependence of organizations on western vendors

Reduced administration workload

Automation of tasks and routine operations greatly simplifies administrator's work

Reduction of the level of requirements for knowledge in programming and Linux

A simple and convenient administration tool — no need for scripts
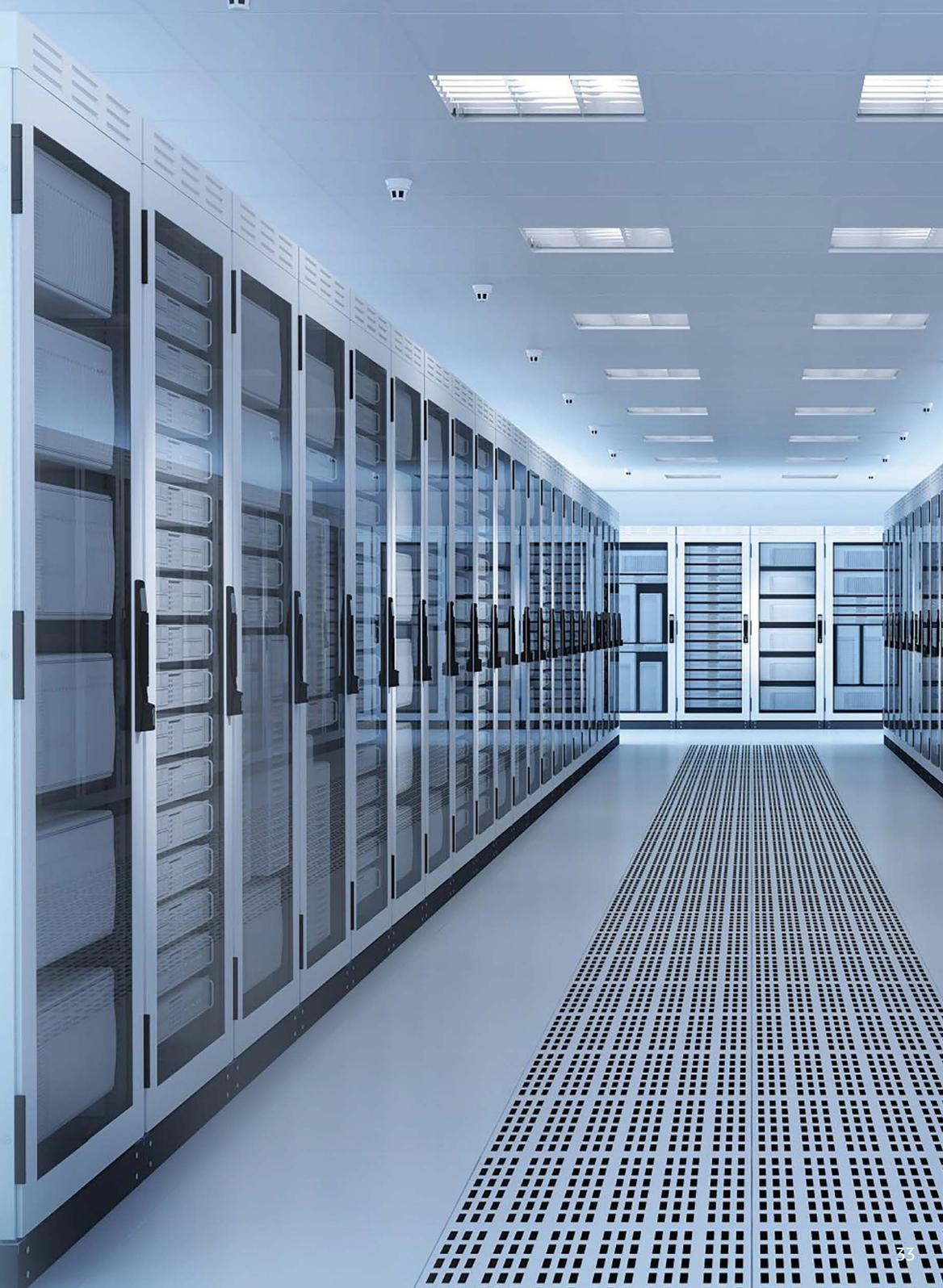
Brest

Software suite of management tools for secure virtualization environment for cloud application scenarios

The Brest Virtualization Tools Software Suite (Brest VT SS) — a Russian platform with the built-in Astra Linux Special Edition information security tools for creating and managing cloud virtual IT infrastructures.

The solution allows you to create and use virtual infrastructures of any complexity, using the entire IST complex of the special-purpose server operating system Astra Linux Special Edition.

Suitable for all information systems, including the ones processing classified information up to and including the top secret level.

Functionality

- Creation of a cloud-based secure virtualization environment for servers and workstations of x86-64 architecture
- Centralized system management via the web interface
- Scaling virtualization clusters, as well as the entire virtual infrastructure, including through the creation of additional distributed clusters and DPCs
- Monitoring the health and the usage of virtual infrastructure resources, as well as the status of the physical nodes included in the DPCs
- Migrating the running virtual machines between virtualization cluster nodes or their disks between external storages
- Ensuring fail-safe management
- Creation of High Availability clusters
- Distributed Resource Scheduler (DRS) automatic — workload distribution between physical nodes
- Creation of several networks and separation of the service and user traffic into different information flows

Key advantages

- A simple tool for building private and public clouds
- Support for Astra Linux security tools (closed-loop software environment, mandatory integrity control, mandatory access control)
- Integration into the ecosystem of Astra products (Termidesk, ALD Pro, RuBackup) for building IT services
- Support for multi-tenant operation — complete isolation of cloud users
- Scalability and fault tolerance
- Own application marketplace
- Federation mode — centralized management of geographically dispersed cloud infrastructures via a single interface

Usage Scenarios

- Private cloud
- Public cloud
- Virtual Desktop Infrastructure (VDI)
  and Virtual Desktop as a Service (DaaS) — optional

Storage design options

- Converged and hyper converged (HCI)
- External hardware storage

Implementation results

- Increase of information security level of the entire
  IT infrastructure by creating isolated virtual environments
- Ability to provide IT services
  (as an internal or commercial external service):
  - Infrastructure-as-a-service (IaaS)
  - Platform-as-a-service (PaaS)
  - Software-as-a-service (SaaS)
  - Desktop-as-a-service (DaaS)
  - Virtual Data Center (vDC)
- Optimization of costs for creation and usage of an IT system
  by reducing the number of server hardware and workstations
- Maintenance costs reduction due to the centralized management
  of virtual infrastructure resources
- Quick scaling and balancing of resource usage: possibility
  to change the number and capacity of virtual servers and
  workstations
- Ensuring business processes stability and employees' work
  acceleration by increasing availability of information resources
 and workstations

VMmanager

Platform for building and managing a server virtual infrastructure on customer's physical equipment

- Managing hardware and container virtualization

- Isolation and abstraction of virtual infrastructure from physical

- Automated provision of services or software for the end customer

- Administering and monitoring of virtual machines and containers

VMmanager is a simple out-of-the-box solution for building virtualization on customer's infrastructure. The platform allows building a fault-tolerant storage based on domestic software.

Reduces the risk of losses due to fault tolerance according to High Availability concept: identifies and eliminates possible points of failure, ensures reliable connection of all systems and components to one another and detects failures as they arise.

Automation of operations, simple control, user-friendly interface and a self-service portal reduce labor costs, staffing requirements and costs.

Advantages

Dynamic resource management

Automatic redistribution of resources which is based on application load and priorities

Self-service portal

Users manage the allocated resources themselves, without being tied to the company's physical equipment

Automated installation

Host connection is automated — you can deploy virtualization clusters with hundreds of equipment racks in a day

Labor optimization

- Automation of routine operations
- User self-service
- Easy infrastructure management
- Convenient graphical interface

Process continuity

- Migration of running virtual machines between cluster nodes
- Server maintenance without interruption

Fault tolerance

Microservice architecture: load increase on one of the services does not affect operation of the entire platform

Easy IP address management

- Virtual network administration
- Monitoring the number of free and busy IP-addresses
- Ability to allocate addresses manually and automatically

Full infrastructure control and incident analysis

Collection and visualization in the interface or in Grafana of traffic data, CPU usage, RAM usage, etc.

For whom

Service providers for external clients

VMmanager provides automated provision of services to the clients using VPS/VDS, IaaS and SaaS models (the main task of business), reduces workload of support specialists and administrators by automating processes.
Western analogs: SolusVM, SolusIO, Proxmox, OnApp.

Infrastructure owners

Allows you to manage server virtualization using a simple interface and maintain a hybrid enterprise infrastructure. Automates routine administration operations and provides fault tolerance according to the High Availability concept.
Reduces the infrastructure maintenance costs due to the built-in functionality for integration with monitoring systems.
Western analogs: ProxMox, VMware, oVirt, Hyper-V

Termidesk

Modern solution for unified desktop virtualization

Support for all popular virtualization platforms

vmware®   AER0DISK

oVirt   zVIRT

BREST   Open Nebula

openstack.   vmmanager

The main purpose of Termidesk is automation of a life cycle of virtual desktops (VDs) and organization of their secure delivery to the users through various remote desktop protocols.

Key features and benefits

- Centralized and convenient administration of VD infrastructure

- Multi-platform solution for a wide range of virtualization systems

- Support for multiple VD delivery protocols

- Access to VD from a browser using HTML5

- Ability to work using a full range of information security tools built into the OS Astra Linux Special Edition

- Compatibility with various hardware architectures: x86, MIPS, Arm

- Leveraging GPU virtualization (vGPU) capabilities on virtualization platforms

- Support for many authentication methods

- It is possible to work both with individual VDs with preservation of their state, and with collective ones, returning to the original settings after completing each session

- Support for various guest operating systems

- Ability to work with CAD and other resource-intensive graphic systems

Implementation effects

- Reduced time to deploy and prepare users' workstations

- Possibility of flexible infrastructure scaling

- The increasing work efficiency due to users' mobility

- Information security rise due to the use of Russian secure IT solutions

- Optimization of the use of computing resources

- No sanction risks

Tantor

1. Industrial Database management system (DBMS) for high load information systems

2. Scalable modular platform for administering and monitoring of PostgreSQL based DBMS
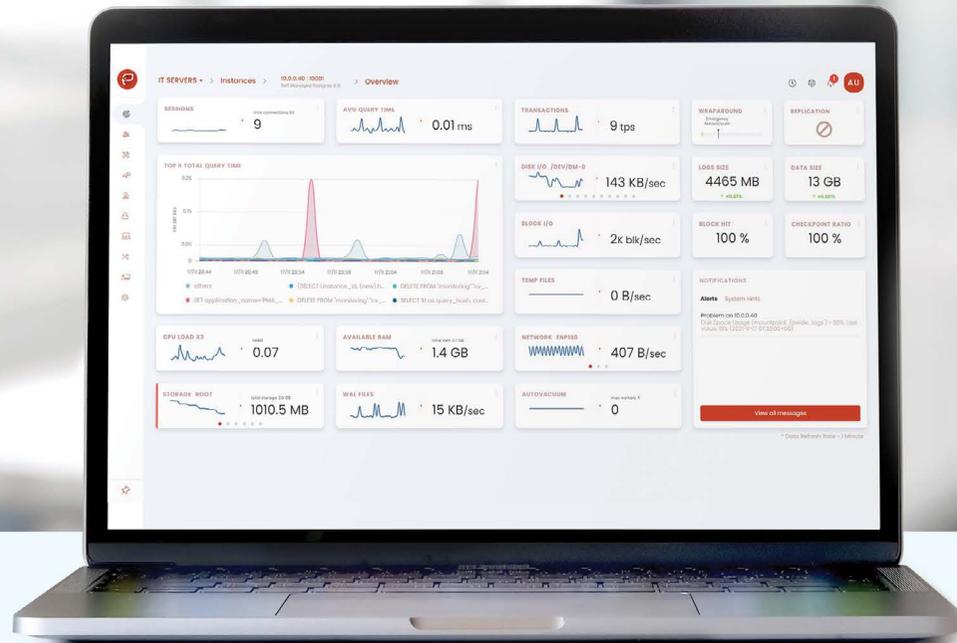
For governmental and commercial organizations

Tantor DBMS

1. Universal high-performance DBMS for solution of various tasks with transactional and mixed workloads

2. Target DBMS at migration from Oracle Database, Microsoft SQL Server and other western relational DBMS

3. The foundation for enterprise data warehouses and analytics marts

4. System DBMS for Russian software companies' products

Platform Tantor

1. A system for monitoring and administering your own fleet of PostgreSQL-based DBMS servers
   - Server status monitoring and maintenance
   - Configuring the server settings based on platform recommendations
   - Analysis and recommendations for optimizing the database schemas
   - Detailed analysis of SQL queries

2. Collaboration between database developers and administrators in terms of incident investigation and query optimization

3. Automatic, trigger-based notification of responsible employees

4. The system for monitoring PostgreSQL client based DBMS servers of the cloud and hosting providers

Comprehensive database management solution for government and commercial organizations

 Ease of use

 Resource saving

 Risk reduction

 Development strategy

Tantor DBMS

- The Tantor DBMS core is based on well-known PostgreSQL DBMS — the availability of expertise on the labor market
- Three versions of Tantor DBMS for different types of tasks
- Easy migration to Tantor DBMS with PostgreSQL and other assemblies based on it

- Low cost of ownership
- A single technical support window with the ecosystem of Astra Group products
- Prompt troubleshooting

- Availability of a multi-level system of continuous testing in the development process
- Seamless integration with Astra Linux server OS

- Public development roadmap for the next 5 quarters
- Deep integration with the operating system for creation of the specialized hardware and software systems

Tantor platform

- Fast platform deployment
- Easy connection of servers for monitoring
- Simple user interface

- Does not require high levels of expertise and knowledge in PostgreSQL for administering and monitoring
- Rapid incident investigation
- Maintenance and support from software developers

- Automatic monitoring of DBMS servers and notification of anomalies
- Transparency of the connected DBMS operation
- Proactive response to possible failures and shutdowns

- Scalability
- Usage in cloud infrastructures
- Possibility of vertical enrichment of the monitoring and administering functionality with new functions in information security and application development

RuBackup

Enterprise-class system client-server application for automated data backup and recovery

Storage

Guarantee

Control

The Russian backup system for Linux, which has the same full functionality as similar products for Windows

Storage

- Distributed architecture keeps data synchronized across all sites for their maximum availability

- Scale-out storage lets you grow your infrastructure and predict performance and costs

- A single platform makes possible consolidation of all data and IT infrastructure, eliminating appearance of disparate data areas

- Deduplication allows saving on storage resources using the available x86 architecture and servers, as well as the systems based on Russian processors Baikal and Elbrus

- Huge market coverage of Linux-based operating systems, virtualization systems and DBMS, including OpenSource

Guarantee

- Integrated security conversion algorithms comply with Russian state standards, as well as standards of the CIS countries, Europe, Latin America and China

- Single modular architecture provides the same recovery readiness for all data items

- Built-in digital signature of backups to avoid data spoofing during backup or restore

Control

- Management based on backup strategies: integration of all controls within a single strategy for single or group data

- Control over information growth in various infrastructures, on virtual machines, private clouds and local data centers using QOS technology, which allows you to prioritize traffic and save the most important data even with a low network bandwidth

- A new level of client self-service: the administrator of an application or a virtualization system can autonomously create a schedule for creating copies and restoring data

- Predefined automated recovery scenarios for corporate IT systems relieve administrators and give confidence in data security

DCImanager

Platform for work with physical infrastructure

- IT asset accounting
- Equipment and network management
- Monitoring their status

Equipment is under management of just one platform even if the company's equipment fleet includes dozens of brands, is distributed across different local regions and even countries and used at many data centers.

Reduces radically the cost of IT specialists training and their induction, reduces the cost of equipment ownership due to a transparent inventory and availability of data on counterparties and equipment supplies inside the platform.

Advantages

- A single platform for managing all multi-vendor equipment
- Intuitive interface and ease of administration
- Flexible integration with an infrastructure of any complexity
- Work with servers in different data centers
- IT systems cost reduction
- Accounting and analytics

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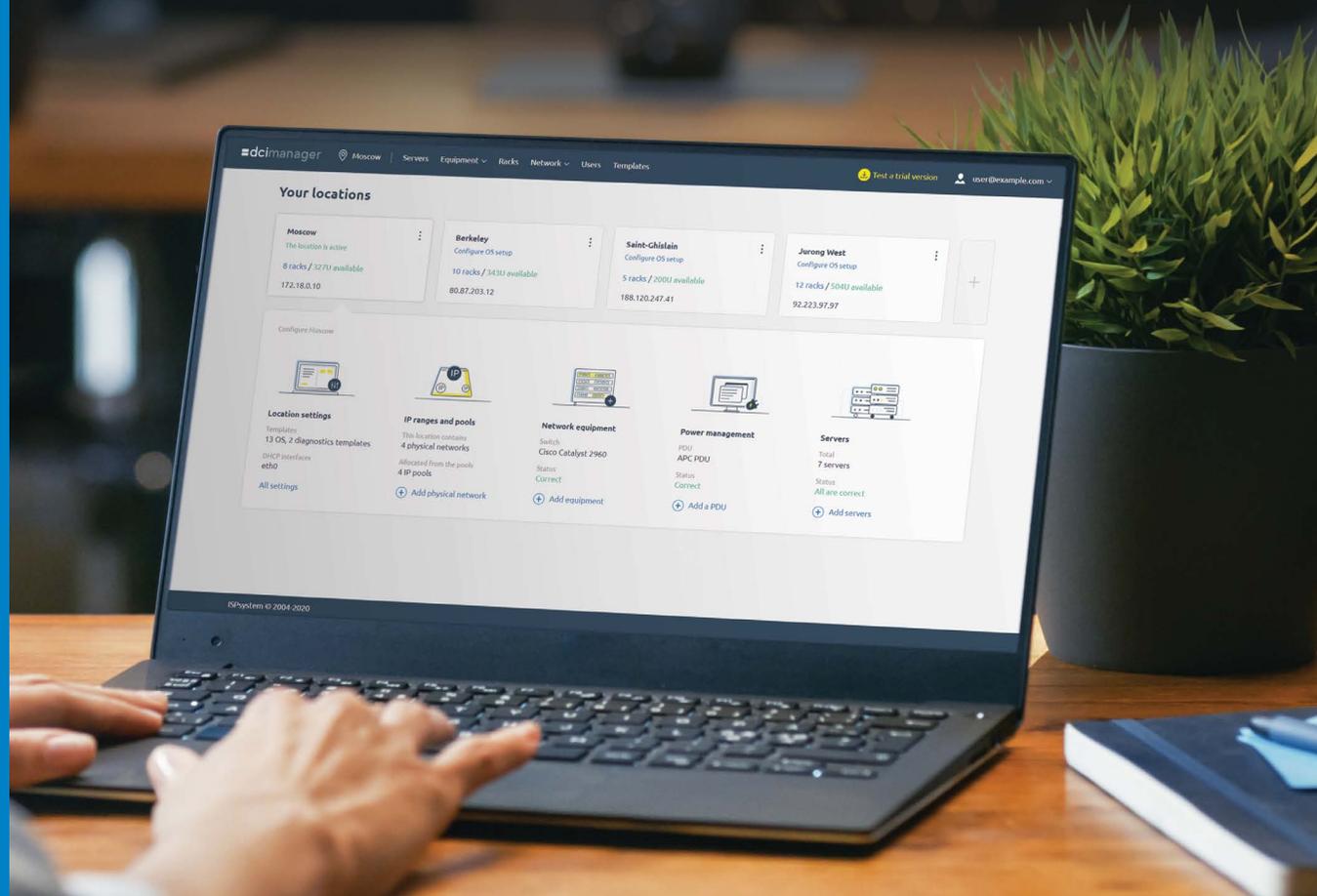
A single DCImanager instead of dozens of admin tools

Accounting

Monitoring

Control

Geographically distributed systems
A single interface for infrastructure control, also having dozens of data centers available in different cities

Rack equipment visualization
An interactive map shows location of equipment, its status, as well as all detailed information about the devices

Multi-vendor server parks
The platform allows unified management of servers of both local and foreign manufacturers from basic operations (power on and off) to complex ones (OS and software installation, BIOS firmware tracking). Monitors and predicts equipment component failures

Network hardware
Management of switches from the most popular manufacturers in a single graphical interface without additional software and a manual command entry

Power supply
Work with uninterruptible power supplies and controlled outlets

Address space (IPAM)
Convenient IP address management and support for IPv4 and IPv6 standards

Equipment
Simplification of IT asset management at all lifecycle stages, from procurement to decommissioning

Supplies
Ability not only to keep track of equipment at warehouses and different locations, but also to have at hand data on counterparties and supplies

Users' roles
Differentiation of access levels to IT infrastructure and logging of actions to ensure system security

Problem Notifications
Tracking all important indicators of equipment operation and informing administrators about emergency situations

Self-Service portal for users
Users themselves manage the resources allocated to them, in their personal accounts

RuPost

Corporate e-mail management system

Easy installation and simple setup

Rapid integration into available IT infrastructure (literally minutes)

An optimal tool for easy and fast migration and co-existence with MS Exchange

Clear control for the system administrators accustomed to Windows

All relevant modern functionality of corporate e-mail

"Out of the box" integration with corporate Information security solutions (Kaspersky, Dr.Web, Infowatch TM)

Easy to deploy and manage enterprise-class mail server

Alternative to MS Exchange solution for working with e-mail, calendar, address books
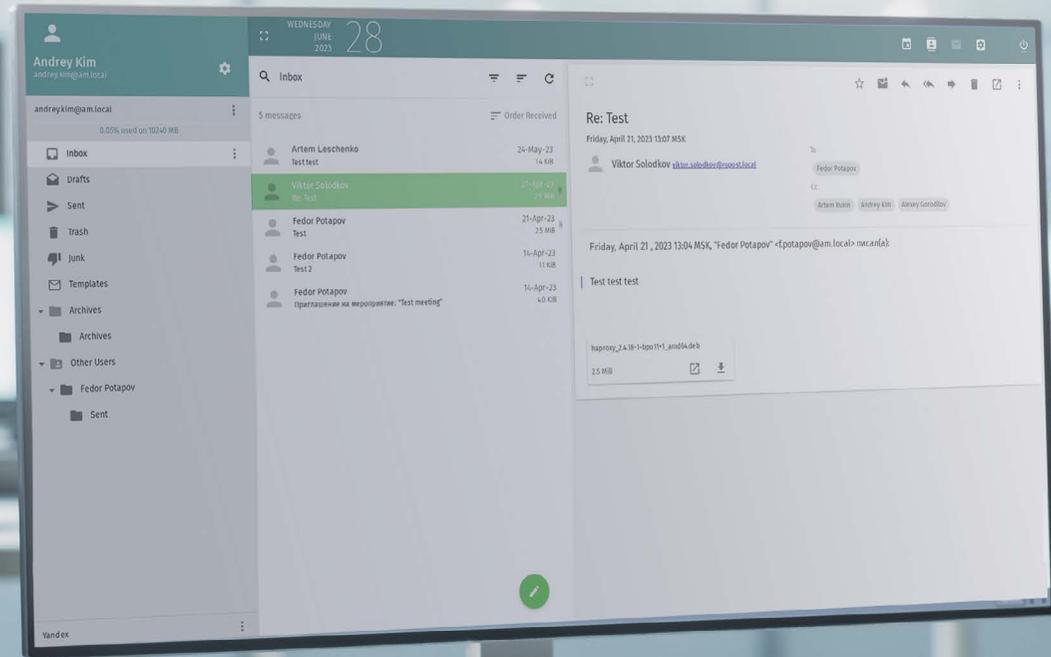
All operations
are easy and fast

- Configuration templates for automation, fault tolerance and recoverability

- Visual configuration settings

- Single installer

- Unified control panel

- Saving the entire history of successful settings

Built according to secure
development standards

- System Integrity Check

- Automatic recovery

- Built-in health checks and monitoring

- Administrator role model

Enterprise Solution

- Simultaneous operation and support of most directory services

- Milter protocol support for integration with antivirus software, as well as information leakage prevention solutions for effective incoming e-mail filtering

- Compatible with all popular client applications, including MS Outlook with a special RuPost plugin

- Command line for advanced customization, configuration and automation

- Scaling up and scaling out

- Support for clustering to improve fault tolerance

WorksPad

Client-server (EMM – solution)* enterprise-class solution for organizing secure mobile work of employees on smartphones and tablets based on iOS and Android

Provides a high level of data security and prevents data leakage by installing a container application controlled by the client company with customizable security and encryption policies on the employee's mobile device.
At the same time, the application does not control the device owner's private data, neither it affects them in any way.

*Enterprise Mobility Management
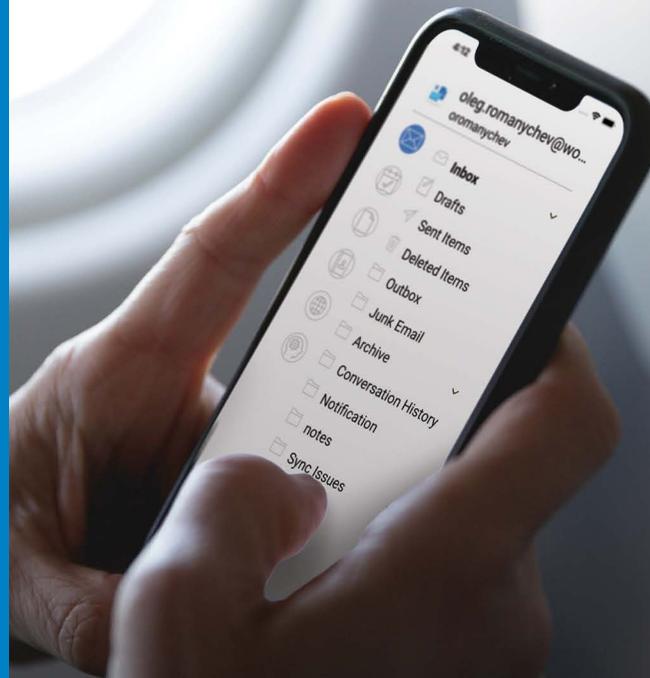
Key features

Allows employees to perform any daily tasks on their personal smartphones or tablets as easy as on office computers.

- Work with e-mails, including viewing multiple e-mails simultaneously

- Connection to any network folders on a working server or a computer

- Editing documents within the application, without using external office programs

- Connection through the built-in browser to corporate resources with a web interface: EDMS, ERP systems, CRM, etc.

- Synchronization with the lists of corporate contacts and calendars

- Creation of microapplications (bots) unique for each client company, with quick access only to certain functions of corporate information systems (CIS). At running, the bot automatically connects to the CIS through a secure connection and provides an employee only with a required menu, without loading the full system

Advantages

A single application with all functionality for employees' efficient work

Allows you to perform any daily tasks on your phone or tablet, just as on an office computer

Multitasking — you can view and edit several letters and documents at once

A convenient tool for paperless meetings

For information security services

- Protection of corporate data when working from mobile devices
- Manageability of mobile work, differentiation of access rights for different groups of users
- Logging and integration with DLP, SIEM, MDM, etc.
- Unique information security features

For IT Services

- Easy administration
- Easy integration into the available infrastructure
- Absolute cross-platform: support for Windows, Linux, MS Exchange, RuPost, Communigate Pro, etc.
- Expandable functionality

For the company

- Staff's productivity rise
- Ability to use personal devices without affecting private data
- Import substitution
- Maintaining the image of a modern technology company among its employees

BILLmanager

Platform for automation of service provision

- Automated provision of resources to users

- Carrying out of financial transactions (reception of funds) and preparation of reporting documents

- Preparation of financial and management reporting
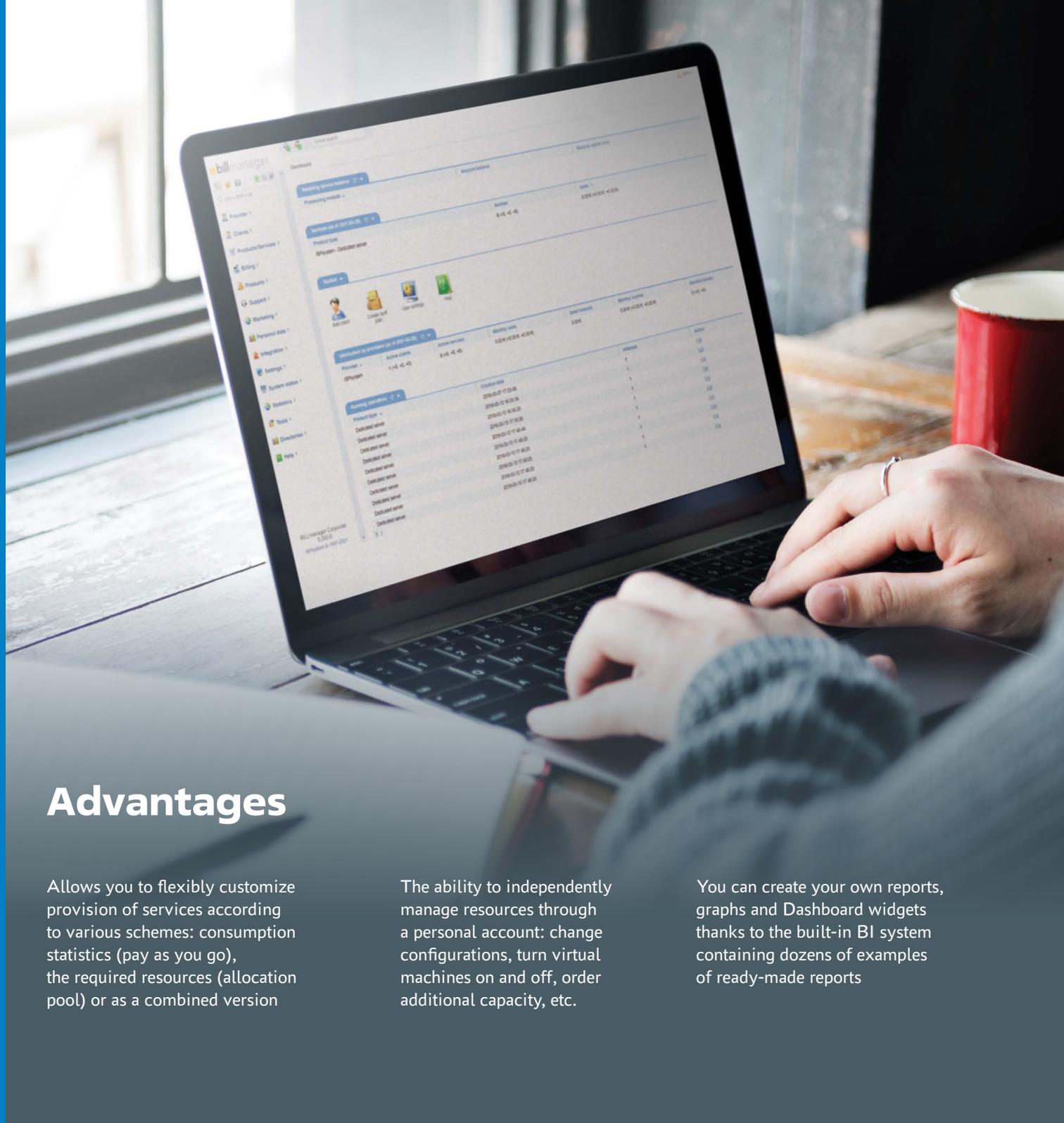
Advantages

Allows you to flexibly customize provision of services according to various schemes: consumption statistics (pay as you go), the required resources (allocation pool) or as a combined version

The ability to independently manage resources through a personal account: change configurations, turn virtual machines on and off, order additional capacity, etc.

You can create your own reports, graphs and Dashboard widgets thanks to the built-in BI system containing dozens of examples of ready-made reports

For commercial and governmental organizations

- Infrastructure management based on a single portal principle

- Control over IT infrastructure and its efficient use

- Savings on engineering labor costs

- Reduction of the services provision time

- Enhanced interaction with users through a built-in help system

For cloud and hosting providers

- Automation of provision of many services: from ordering a website to its support

- Tariffication, acceptance and control of payments

- Preparation of financial and management reporting

- Built-in CRM-system tools allow you to effectively organize sales staff work

- Contains marketing tools to drive sales and retain customers

How does BILLmanager help reduce IT costs?

1. Reduces time for the provision of resources

2. Reduces IT department labor costs

3. Provides control over resource consumption

4. Promotes efficient use of infrastructure

5. Allows planning of expenses

Astra Consulting

Comprehensive support for projects implementation during import substitution

For the clients requiring transfer of their equipment fleet to Russian IT solutions in the shortest possible time

Преимущества

Vendor competencies

1. Direct access to development tools and technical support

2. The most complete knowledge of all products of the Group of companies

3. Extensive implementation experience: over 1,500,000 licenses

Clients receive

1. Minimum risks when choosing optimal architectural solutions

2. Acceleration of import substitution processes during implementation of Astra Group software

3. The most effective implementation of import substitution projects: high quality and reliability of software and hardware solutions, as well as staff training

Advantages

Unique developments:
tools, methodologies
and approach to transition
on import-independent
technologies

Experience in provision
of smooth functioning
of all IT systems of the
end customer during
import substitution
projects

Assessment of
capabilities of the
existing software stack
and search for options
in the absence of direct
analogues of foreign
solutions

Operating system
developer competencies
allow you to scale,
automate and apply
a pipeline approach to
typical operations when
implementing solutions

Services

IT infrastructure
audit

Virtualization

Information
security

Implementation

Vendor
supervision

Extended
service support
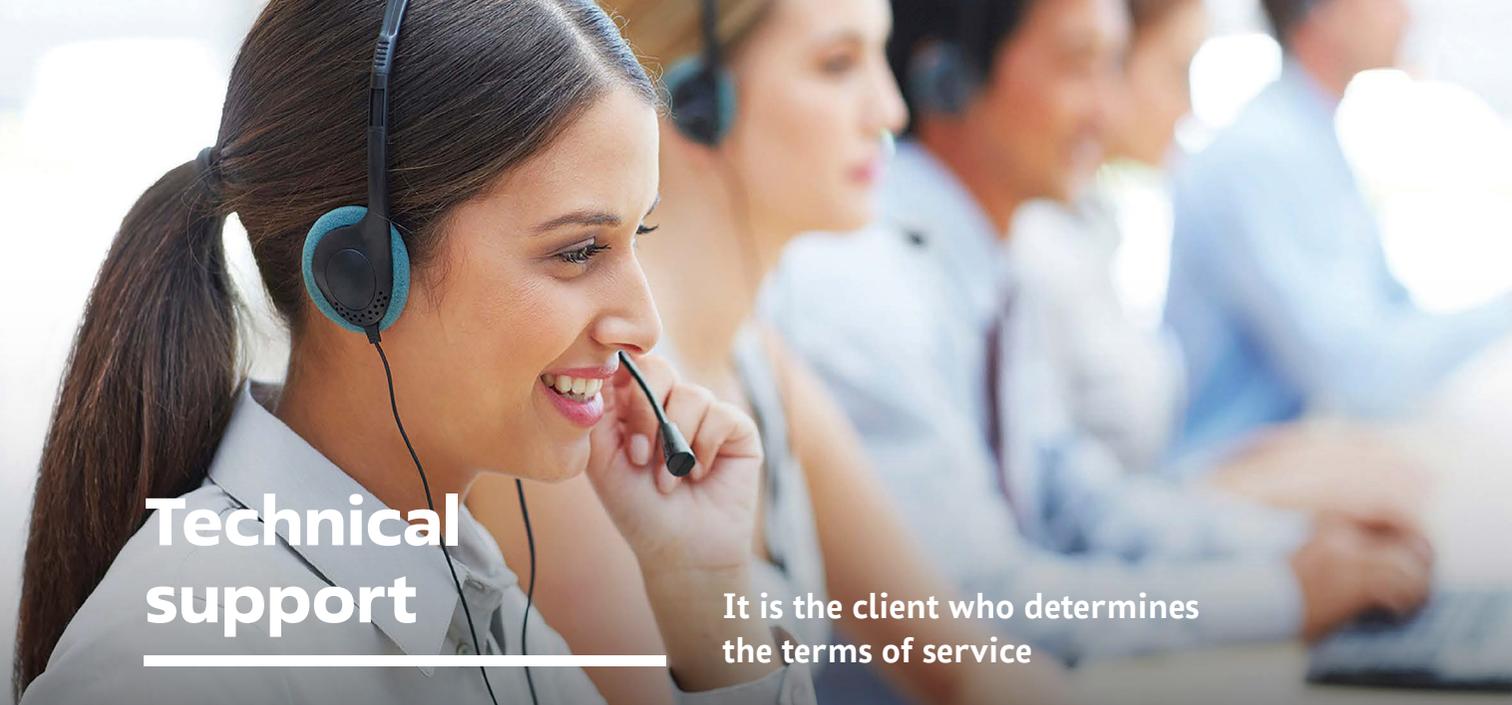
Technical support

It is the client who determines the terms of service

Astra Group of Companies is one of the few on the market providing services for deployment of pilot zones on the customer's territory, with a full technical support.

Astra Group clients across Russia have an access to vendor's technical support.

Service packages

Starter

- Rapid security updating
- Access to Help Center's open resources
- Access to knowledge base
- Personal account

Cloud*

- All the Starter package services
- Access to the technical support portal
- Consulting on setting up the software of Astra Group of Companies
- Simulation of problematic situations on the test bench of the technical support service

*Cloud support is not interchangeable with other types and applies only to the products purchased through cloud providers

Standard

- All the Cloud package services
- Consulting on installation and configuration of Astra software
- Analysis of hardware and software compatibility
- Provision of a standard ISO image of Astra Linux Portable (a secure portable desktop on a flash drive)

Privileged

- All the Standard package services
- Personal manager
- Chat with a specialist
- Priority processing of calls
- Remote connection to resolve issues
- Building drivers for equipment
- Consultations on installation of the software from the technological partners of Astra Group of Companies
- 24/7

Technical support of Astra Group is an effective and fast assistance each client receives just when he needs it.

Always available by phone, through a web portal, a personal account and a corporate messenger

Resolves issues of any complexity through three lines of support, consisting of 100+ technical experts

Ensures compatibility of all components of the end customers' IT systems

Free sharing through the Wiki-library with the expertise on software installation, OS administration, as well as on developing applications for Astra Linux

Operates in 3 time zones: GMT+3 (Moscow, Istanbul, Nairobi), GMT+7 (Novosibirsk, Jakarta, Hanoi), GMT+10 (Vladivostok, Canberra)

+7 495 369 48 16

support@astralinux.ru

support.astralinux.ru
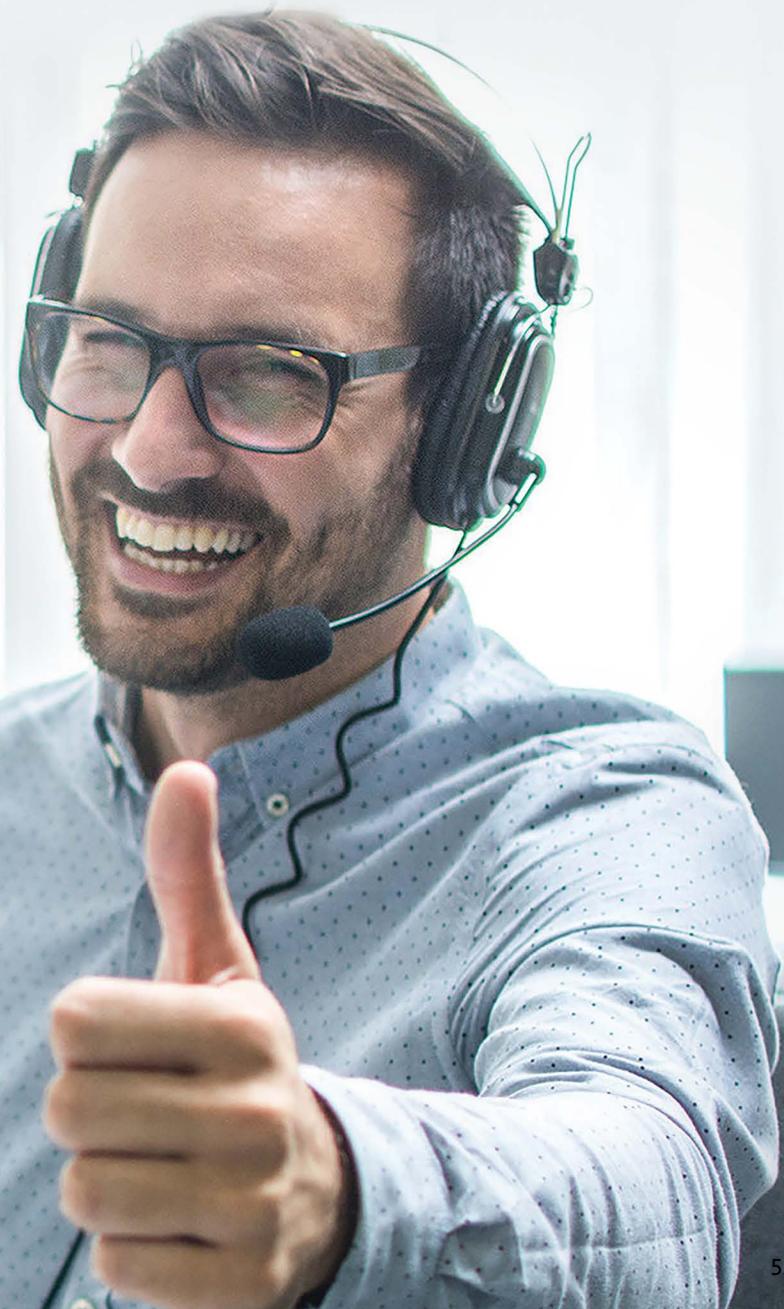
Astra Group training system

Authorized training

Training centers

A wide network of authorized training centers across the country that are based on organizations licensed in supplementary vocational education (SVE) programs allows full-time and part-time training of IT specialists:

- at SVE centers
- at universities
- at colleges

Astra Group of Companies monitors a uniform quality standard of training at all authorized training centers and provides them with methodological support on a regular basis.

100+ training centers

Courses

The employees of the Department of Education have developed programs and materials for constantly updated courses for IT specialists training on the following products of the group of companies:

- OS Astra Linux for users
- Astra Linux OS administration
- Astra Linux OS advanced administration
- Astra Linux OS network administration
- Security in OS Astra Linux
- Termidesk: installation, configuration and management
- Administration of the RuBackup backup system
- Practical course on working with Brest VT PC
- ALD Pro installation, configuration and use

Teaching staff training

Teaching staff of the training centers are authorized by Astra Group and are regularly trained by the vendor's leading experts, with their official certification.

*avaliable only in Russian

Training at universities and colleges

Development of the country's human resources potential in IT field and formation of a positive and trusting attitude of young professionals to work for specialized Russian companies is one of the key tasks of Astra Group of Companies

Astra University

The vendor actively cooperates with universities, colleges and technical schools in Russia, on the basis of which the personnel is trained for work with the system software.

Students are trained in a wide range of disciplines

- Information technology
- Operating systems
- Computer networks

- Computer architecture
- Security of operating systems
- and others

300+ educational organizations

5 000+ students per year

Astra Career

Helps young professionals who have passed exams and certification to become candidates for promising positions in the Russian IT industry.

The project goal is staff provision of the leading IT companies and organizations which use the Astra Group software.

A quick and successful start for the ones who are at the beginning of their career path

Enhancing professional knowledge and skills for stable work and career in IT field

An opportunity for employers to form a young team of ambitious and talented employees

Convenient and efficient recruitment

Astra School

Astra Group of Companies together with Russian schools teaches children how to work with Astra Linux and the other products, as part of additional training programs.

Courses for schoolchildren

- Astra Linux basics
- Astra Linux OS administration
- Information security tools
- and others

Training in the software products of Astra Group contributes to formation of experience in working with domestic software.

Knowledge gained will help schoolchildren to quickly adapt to a university or college educational processes and give benefits for joining the Astra-Career project.

Training on the basis of educational organizations

- Schools
- "UnArmy"
- "IT Cubes"
- Russian Schoolchildren Movement

Schoolchildren who have completed training can take part in various olympiads and competitions

- "IT-Planet"
- "Trajectory of the Future"
- "School of Real Affairs"

*avaliable only in Russian

Educational content

Books and tutorials

Astra Group publishes educational and methodological materials on its software products on a regular basis.

Training Portal

The entire line of courses for different categories of students in online format

Online access to materials

• 24/7

• From anywhere in the world

For more information, please contact   the Education Department of Astra Group of Companies

+7 495 369 48 16

education@astralinux.ru

education.astralinux.ru

*avaliable only in Russian   59
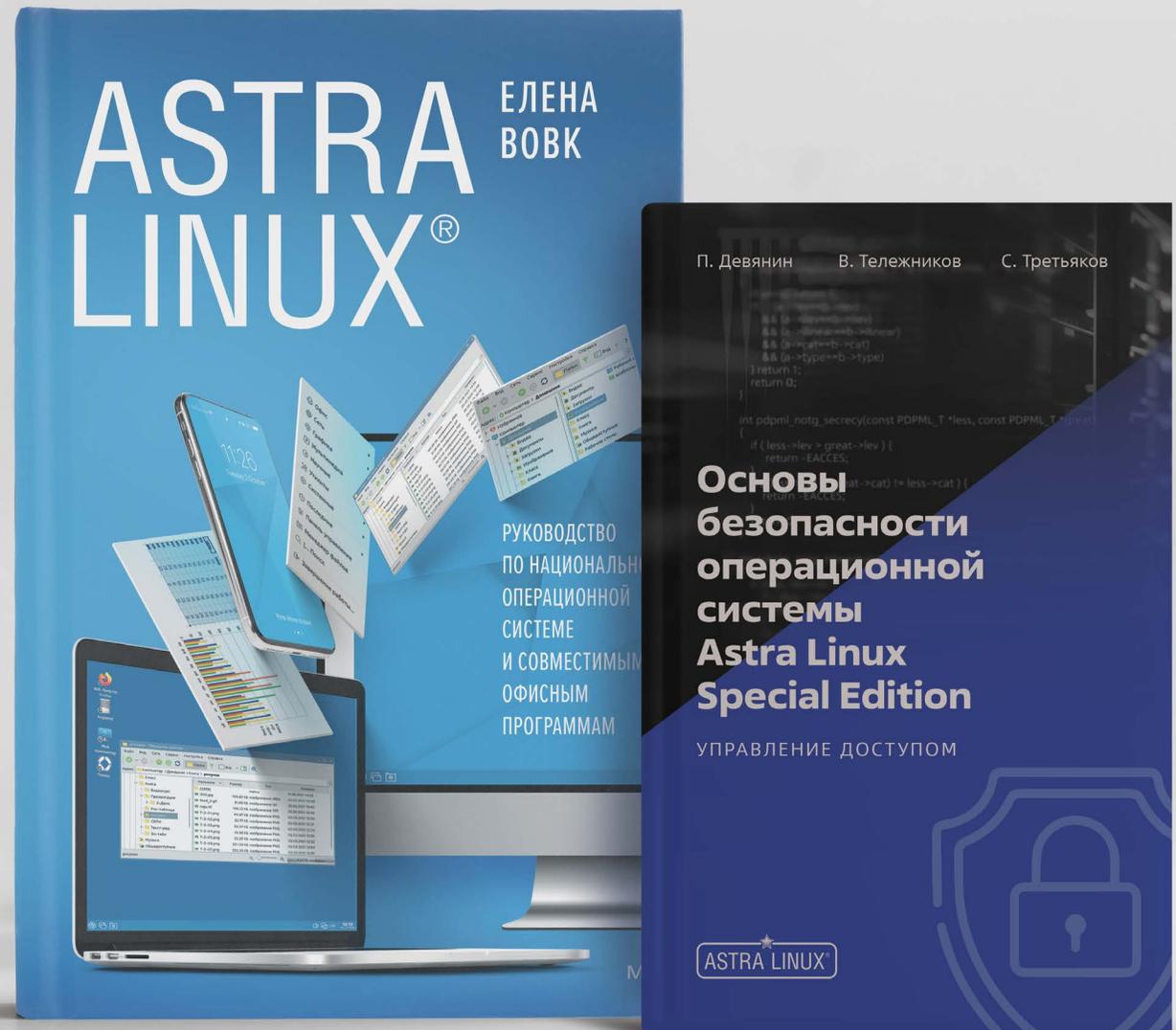
Our clients

Astra Group products are used by ministries, agencies, large state corporations and other organizations having the most stringent requirements to the level of reliability, convenience and stability of IT solutions.

Federal and regional executive authorities in a number of regions are at different stages of migration to domestic technology on the basis of Astra Group software.

Russian federal executive authorities

Ministry of Defence

Federal Security Service

Federal Guard Service

Federal Service for Technical and Export Control

Ministry of Emergency Situations
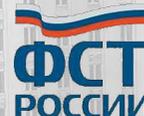
Federal tariff service

Federal Penitentiary Service

Ministry of Internal Affairs

National Guard

Regional executive authorities

Sverdlovsk region

Tambov Region

Omsk region

Chelyabinsk region

Russian state corporations

Rosatom

Roscosmos

United Shipbuilding Corporation

Rostec

Concern Avtomatika

Aerospace Defense Concern Almaz-Antey

РЖД Russian Railways

Industry Application

Oil production and energy

Tatneft

IDGC of Center

Rosneft

Zarubezhneft

Gazpromneft

Gazprom' subsidiaries

Education

National University of Science and Technology

Ural Federal University

Lomonosov Moscow State University

The Bonch-Bruevich Saint Petersburg State University of Telecommunications

Russian Technological University

Novosibirsk State Technical University

Finance

Bank DOM.RF

Russian Agricultural Bank

VTB Bank

SberBank

Promsvyazbank

Healthcare

Omsk Medical Information Center «MIAC Omsk»

Pirogov Russian National Research Medical University

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