

# CROC

## Microsoft SQL Server 2019

### Consulting and implementation Azure SQL Database



# KPOK

**RUB 30.7r  
billion**

in revenue for 2019

No.

**1**

systems integrator in Russia\*

Top

**5**

consulting businesses in Russia\*\*

Top

**3**

Russian IT service providers\*\*

Top

**5**

Russian IT companies\*\*

**2,500+**

projects per year



**400+**

partners

**2,000+**

employees



**100+** Russian  
**70+** Asian  
**30+** open source

**9** Solution Centers and  
**10+** demo labs, including  
CROC Immersive Technology Center

**20+** years of quality management and  
**GOST ISO 9001-2015** certification



# Expertise in Microsoft technologies



**500+** Microsoft-based projects for **100+** customers since 2015

**60+** Microsoft certified engineers



CROC has adopted and annually updates **internal controls** policies and rules



**50+ employees** annually receive **Microsoft Compliance** training and testing

CROC is creating a new digital ecosystem for society and completing projects in **42 different countries**



# CROC is a reliable Microsoft partner

**CROC** is a Microsoft Certified Partner and offers licensed software sale, configuration and support services. CROC holds numerous Microsoft awards and actively fosters cooperation as part of the partner program. CROC provides maintenance services to its customers.



**20+ YEARS OF  
COOPERATION**



**TOP 5  
AUTHORIZED LSPs**

**KPOK**

## COMPETENCES

- ✓ Gold Messaging
- ✓ Gold Data Analytics
- ✓ Gold Data Platform
- ✓ Gold Communications
- ✓ Gold Application Development
- ✓ Gold Collaboration and Content
- ✓ Silver Cloud Platform
- ✓ Gold Datacenter Cloud Productivity
- ✓ Silver Small and Midmarket Cloud Solutions
- ✓ Gold Windows and Devices
- ✓ Cloud Solution Provider (tier 1)
- ✓ Service Provider

# Microsoft-based unified data platform



**Microsoft SQL Server** analyzes and manages large data clusters, optimizes business-critical system support, and dramatically reduces application development time.

This reliable system gives you full control over structured and unstructured data, regardless of their location.



**Data processing** both on-premise and in clouds

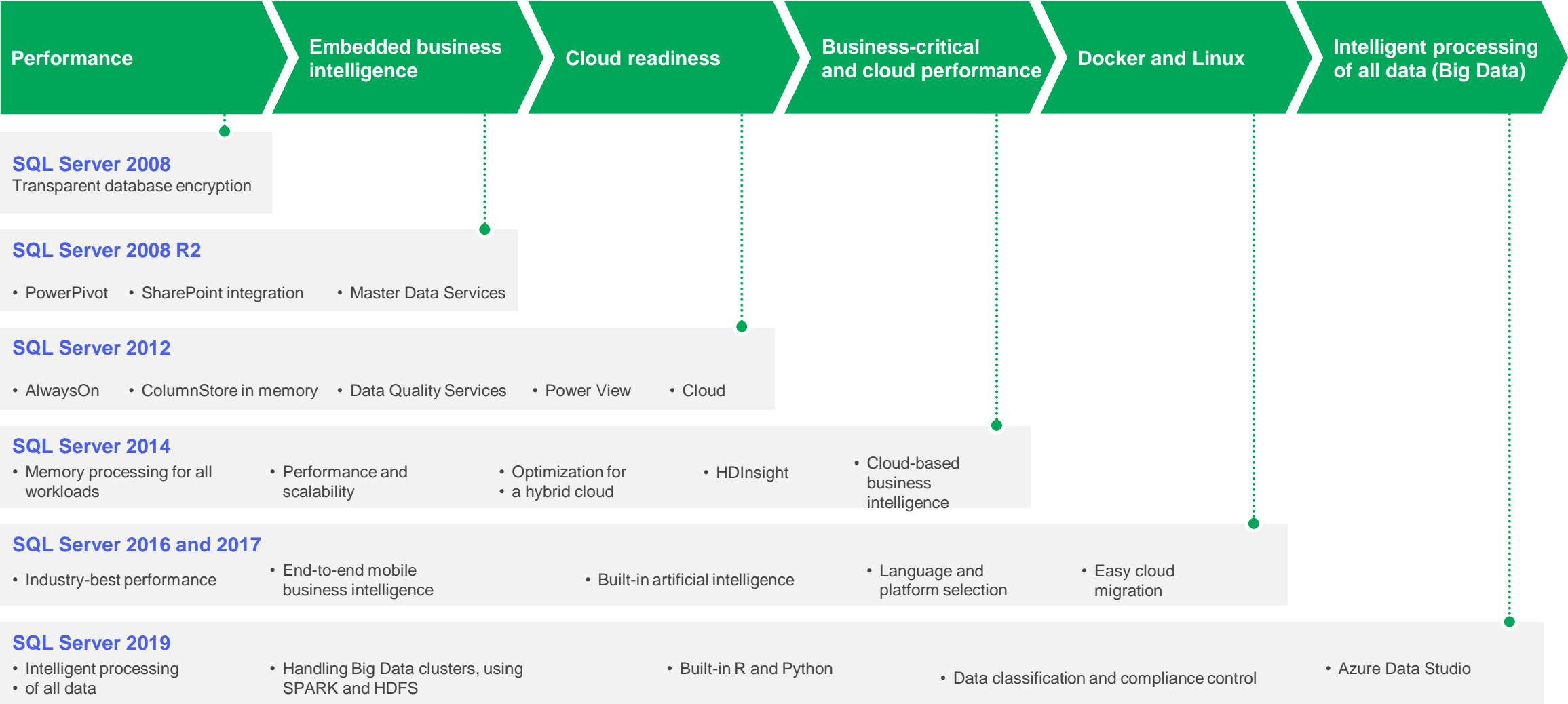


**Migration** of existing data processing tools to cloud without dramatic changes



**Data analysis** both on-premise and in clouds

# Microsoft DBMS evolution



# New SQL Server 2019 version provides



Ability to analyze each data type



High availability for mission-critical apps and data storages



Hybrid buffer pool



Intelligent query processing



ROM support



UTF-8 encoding support



Platform and language selection



Easy-to-deploy database using Linux containers in a Kubernetes cluster



Easy scalability

# SQL use options



## SQL Server in Azure

Run SQL Server in SQL Azure  
with built-in security and  
management tools



## SQL Server on the edge

Use SQL on IoT devices for real-  
time analysis based on Azure SQL  
Edge



## SQL Server on-premise

Build smart and mission-critical  
apps on a scalable hybrid data  
platform



# Azure SQL Database

**Azure SQL Database** is a cloud-native, intelligent and scalable relational database service that offers AI-powered automated capabilities to improve performance and resilience. Serverless computing and Hyperscale storage enable automatic capacity expansion in line with customer's current needs.

As a result, the customer can create new apps without thinking about storage size or resource management. Moreover, the transfer of existing SQL Server licenses to Azure, as well as Azure hybrid use and redundancy, will save the customer up to 85% of costs, compared to a pay-as-you-go model.

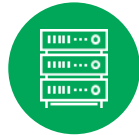
# Azure SQL Database

## Intelligent and secure Azure SQL Database services enable easy:

- **SQL** workload migration from **SQL Server** to **Azure VMs**
- upgrade of existing apps using **Azure SQL** Managed Instance
- support of modern cloud apps with **Azure SQL** Database
- **SQL Server** core use in the cloud in the same manner as the familiar on-premise SQL
- max return on investments in existing licenses



**Fully managed** database with automatic update installation, pre-starting, and backup allows you to focus on app development



Flexible and responsive **serverless** computing resources and **Hyperscale** storage quickly adapt to changing requirements



**Multi-level security**, built-in controls and **intelligent threat detection system** keep your data safe



**Built-in AI and high availability** ensure maximum performance and **99.995% uptime**

# State Budgetary IT Adoption Institution

## Intelligent video surveillance subsystem built on MS SQL 2019

**01** The first stage involved the deployment of 48 analytical and 13 PTZ video surveillance cameras; communication channels between all sites, the central server room, and automated workstation locations; and power supply for complexes.

**02** The central server room was equipped with blade servers and the data storage system running both system software (Microsoft Windows Server, Microsoft SQL Server) and application software (Orwell 2k) that analyzes video stream from cameras and automatically detects hazards ( abandoned items, crowds, intrusions or entering restricted areas, fires).

**03** Alerts and complete information are displayed on user workplaces in the Regional Department of the Federal Security Service, as well as the regional capital's Department of the Ministry of Internal Affairs and Unified Emergency Service, thus helping promptly stop emergencies and criminal activities.

**It is the first time when a video surveillance system with analytical cameras covers the entire city.**





# Major retailer

## Greenplum-based analytical data storage

CROC piloted two open-source products Pivotal and Arenadata for the customer and then developed and implemented Greenplum-based Arenadata DB as per the customer's choice.

- 01** The customer's team now faster completes requests, handles a large number of data sources, and draws up SQL queries by itself without significant overhead

---

- 02** The customer can now perform calculations and pre-processing using previously unattainable historical data depth

---

- 03** Employees collect customer profile info within two hours instead of 12

---

- 04** Equipment costs 12-15 times less than legacy one



# Oil & Gas Company

## IT infrastructure audit

CROC experts audited Microsoft products (Exchange Server, Windows Server, SQL Server), virtualization, backup, data storage, and information security systems

**01** Assessment of IT service continuity risks, development of recommendations on how to optimize IT infrastructure expenses and software licenses

**02** The customer obtained a comprehensive report along with an upgrade methodology and roadmap with work and effort breakdown





# Major bank

## IT infrastructure audit and troubleshooting

CROC comprehensively audited server equipment, data storage and backup systems, LANs, as well as data channels between data centers, Oracle DBMS, and MySQL

**01** Revealing configuration errors and non-optimal use

---

**02** Eliminating all flaws and developing optimization recommendations



# A GRUPP



## IT infrastructure technical support

- **Active Directory**  
(Microsoft Active Directory Domain Services on Windows Server 2016)
- **Basic network services**  
(Microsoft DNS, DHCP, NTP on Windows Server 2016)
- **Database management** (Microsoft SQL Server 2016)
- **Distributed file storage**  
(Microsoft DFS on Windows Server 2016)
- **IT infrastructure management**  
(Microsoft System Center 2016 Configuration Manager)
- **Monitoring**  
(Microsoft System Center 2016 Operations Manager)
- **Virtualization** (VMware vSphere)
- **Backup and recovery**  
(Microsoft System Center 2016 Data Protection Manager)
- **Communication** (Microsoft Exchange Server 2016)

- **Unified Communications**  
(Microsoft Skype for Business)
- **Enterprise portal** (Microsoft SharePoint 2016)
- **Public Key Infrastructure**  
(Microsoft Active Directory Certificate Services on Windows Server 2016)
- **Remote Desktops**  
(Microsoft Remote Desktop Services on Windows Server 2016)
- **Rights Management**  
(Microsoft Active Directory Rights Management Services on Windows Server 2016)
- **Internal and external disk encryption**  
(Microsoft featuring BitLocker)
- **Information security**  
(Microsoft System Center 2016 Endpoint Protection)



# КРОК

ИНТЕГРИРУЕМ БУДУЩЕЕ



**Anastasia Mikheeva**

[AnMikheeva@croc.ru](mailto:AnMikheeva@croc.ru)

**Ekaterina Pavlichenko**

[EPavlichenko@croc.ru](mailto:EPavlichenko@croc.ru)

5 block 1 Volochaevskaya St.,  
Moscow, 111033  
+7 (495)9742274



Facebook



Instagram

