
Anexo A do Caderno de Encargos

- Concurso Público para a celebração de acordo quadro de licenciamento de software e serviços associados -

Grupo 1 de Lotes - Infraestrutura.....	2
Grupo 2 de Lotes - Networking	12
Grupo 3 de Lotes - Segurança.....	13
Grupo 4 de Lotes - Desenvolvimento	18
Grupo 5 de Lotes – Produtividade.....	32
Grupo 6 de Lotes – Gestão	33
Grupo 7 de Lotes – Gestão da Informação.....	35
Grupo 8 de Lotes – Aplicações	39
Grupo 9 de Lotes – Pacotes de software.....	42

Grupo 1 de Lotes - Infraestrutura

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 1 – Directory Services	<ul style="list-style-type: none"> • Centralized data store • Scalability support • Integration with the Domain Name System (DNS) • Client configuration management • Policy-based administration • Replication of information and Multitenancy • Secure authentication support • Authorization support • Security integration • Access control • Interoperability with other directory services • LDAP Compliance • Federation support
Lote 2 – Configuration management	<ul style="list-style-type: none"> • Operating System deployment • Application Deployment • Device Management • Software Update Management • Asset management and usage • Discovery • Inventory • Centralized administration • Client support • “Desired configuration” baseline • Automated deployment of updates and patches • Automated configuration and deployment

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 3 – Server and Client monitoring	<ul style="list-style-type: none"> • Performance monitoring • Health monitoring • Performance and availability reporting capabilities • Notification capabilities and infrastructure • Alerting capabilities • Interoperability and automation • WMI support • SNMP support • Operating systems support • Centralized administration • Administration and operation consoles • Directory Services integration • Authoring tools • Scalability
Lote 4 – Application Monitoring	<ul style="list-style-type: none"> • Application framework support • Service level monitoring • Notification capabilities and infrastructure • Alerting capabilities • Interoperability and automation • Centralized administration • Administration and operation consoles • Directory Services integration • Authoring tools • Scalability

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 5 – Server virtualization	<ul style="list-style-type: none"> • HyperVisor Support • x86 and x64 support • High availability (host and guest) • Zero-downtime migration • Endpoint security • Scalability • Usage reporting • Performance reporting • Data protection • Remote Web Access • Centralized management • Open LDAP support • Directory services integration
Lote 6 - Desktop virtualization	<ul style="list-style-type: none"> • Automated desktop provisioning • Automated deployment of updates and patches • Session-based management • Template-based deployment • Application publishing • USB-based devices support • Centralized management • Directory services integration • High availability

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 7 – IT Management orchestration and automation	<ul style="list-style-type: none"> • Runbook automation • Job scheduling • Application Release automation • Application process automation • Business process automation • IT operations automation • Administration and operation profiles • Virtualization software integration • GUI interface for design • Reliability • Scalability • Multitenancy
Lote 8 – Server High Availability	<ul style="list-style-type: none"> • Distributed metadata and notifications • Resource management • Load management • Health monitoring • Failover coordination • Dynamic Reconfiguration of the Database • Auto-tuned memory management

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 9 – Backup	<ul style="list-style-type: none"> • Centralized management • Centralized catalog • Profile-based policy management • Reporting with historical data • Server/Client deduplication • Snapshot backup • Agent-based backup for databases • Agent-based backup for e-mail systems • Agent-based backup for collaborative systems • Block-level incremental backup • Real time replication • Restore single file system object • Restore single database • Restore single e-mail system object • Disk backup • Tape backup • Storage lifecycle policy • Scalability • Encryption
Lote 10 – Database management	<ul style="list-style-type: none"> • High availability • Centralized administration • Health detection • Failover and failback • Quorum modes • Data encryption • Distribution of Data files, Control Files, and Log Files • Database mirroring • Data replication • Data recovery

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 11 – Groupware/ E-mail	<ul style="list-style-type: none"> • E-mail, calendar, contacts and tasks • Open LDAP support • Directory services integration • Policy-based administration • Anti-malware protection • Anti-spam protection • Client support • Mobile devices support • High availability and resilience • Data loss prevention • Anti-spam protection • Mail archiving and compliance • Information search and retrieval
Lote 12 – Sistemas Operativos	<ul style="list-style-type: none"> • FileBased Storage • Command line support • Scripting support • Application Execution support • Application Monitoring • Non Uniform memory access • Runtime Memory configuration • Multitasking • Multi-processor architecture support • Access control • Network access security support • Kerberos support • Domain Name System Security Extensions • Local and remote Open LDAP Support • Virtualization supported • Complex Password policy support • Backup and restore

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none"> • Recycle Bin • Development API • Unattended Provisioning • Client And Server certificate support • Clustering support • SMB support • FTP Support • IPV4 e IPV6 Support • Load balancing • Common development platform and tools • Remote access
Lote 13 – Application Servers	<ul style="list-style-type: none"> • Deployment and management model of applications • Deployment and management model of SOAP web services • Application state persistence support • Dedicated, queryable storage for application data • Custom management scripts support • Customizable monitoring of hosted services • Automatically applications start • Local and distributed Cache support • Workflow support • Transaction management • Persistence Database support • Persistence Configuration support • Health monitoring support • Policy based exception handling • Auditing • Monitoring Support • Scalability and clustering support • Load balancing support • Data and application Isolation support

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 14 - Unified Communications	<ul style="list-style-type: none"> • Centralized user interfaces for managing and accessing all UC services, including primary access through a graphical user interface (GUI) or Web client and additional telephony user interface (TUI) and mobile client options for mobile user convenience; • Presence management for user availability, voice and IM communications across multiple enduser client devices; • Ability for the user to select his or her "preferred device" for routing incoming and outgoing calls; • Support for a single integrated or unified mailbox that supports email, voice mail and fax mail message types; • Integrated audio and Web conferencing services for handling multiparty conferencing requirements in a multisite environment; • Centralized user interface for moderating, managing and accessing an end user's conferences via a desktop and Web client; • Integrated UC client launch of preferred third-party Web conferencing service/application Secure, achievable and auditable enterprise IM services, or the ability to interoperate smoothly with any pre-existing enterprise IM platform currently in use; • Integrated video calling, using PC-based desktop video and voice over IP (VoIP); • Ability to integrate with existing systems as PBX and IP PBX systems, voice mail, email, applications that use analog interfaces and devices, public or private networks, telephony dial plans; • Offers integrated call controls, with optional support for video calls and collaboration where required; • Supports wideband high-quality audio; noise-canceling microphones to reduce background noise; digital signal processing to filter static from incoming calls; and complies with regional and local regulations to reduce noise at work; • Any proposed SIP endpoints must conform to the Internet Engineering Task Force (IETF) SIP standards as well as firmware upgrades/software downloads to support future compatibility with changes in the UC solution, such as improved security and personal management; • QoS and bandwidth management.

Lotes	Especificações técnicas dos programas a incluir por lote
<p>Lote 15 - Computer Telephony Integration and Interactive Voice Response</p>	<ul style="list-style-type: none"> • Support for Voip and existing telephony infrastructure; • Multimedia contact routing and prioritization engine; • IVR and voice portals for self-service applications, including speech-enabled self service for inbound and outbound with VXML Support; • Outbound dialing/SMS proactive contact; • Virtual routing applications for multisite and work at home scenarios; • Presence tools; • Tools for CRM software integration; • Data mart and analytical systems; • Computer-telephony integration/web services interfaces; • Email response management; • Web chat; • Collaborative browsing; • Social media; • Live and prerecorded video; • Knowledge base self-service; • Workforce optimization tools, including contact center workforce management, session recording and e-learning; • Workflow routing and management; • Mobile customer service applications; • Distributed automatic call distributor (ACD); • Interactive voice response (IVR) capability; • Supervisor Desktop with real-time reports; • Desktop agent application; • Programmable API.

Lotes	Especificações técnicas dos programas a incluir por lote
<p>Lote 16 - User Authentication and Enterprise Single Sign On</p>	<ul style="list-style-type: none"> • Credential manager interface; • User identity management and provisioning process; • Support for multiple credentials and different combination of authentication factors; • Support for multiple authoritative sources for identity; • Single Sign On support across different platforms and applications; • Strong authentication support; • PC Preboot access to a stand-alone or networked PC by any user; • Access to a stand-alone PC by any user; • Access to a mobile device by any user; • Access to the Windows network by any workforce user; • Access to any individual business applications (Web or legacy) by any; • Access to cloud applications by any remote or mobile workforce user; • Server (system administrator): Access to a server (or similar) by a system administrator (or similar); • Network infrastructure (network administrator): Access to firewalls, routers, switches and so on by a network administrator (or similar) on the corporate network; • VPN: Access to the corporate network via an IPsec VPN or a Secure Sockets Layer (SSL) VPN by any remote or mobile workforce user; • HVD: Access to the corporate network via a Web-based thin client or zero client by any remote or mobile workforce user; • Access to business Web applications by any workforce user; • Access to portal applications, such as Outlook Web App and self-service HR portals, by any remote or mobile workforce user; • Access to Web applications by any business partner, supply chain partner or other external user (except retail customers); • Access to customer-facing Web applications.

Grupo 2 de Lotes - Networking

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 17 – Network Monitoring Tools	<ul style="list-style-type: none">• Netflow/sflow• SNMP• Syslog
Lote 18 – Proxy server software	<ul style="list-style-type: none">• Metodo get/post• Método connect• Filtro de Conteúdos• Log activity
Lote 19 – Network Management Tools	<ul style="list-style-type: none">• SNMP• MIB• RMON

Grupo 3 de Lotes - Segurança

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 20 – Anti-Virus e Anti-Spyware	<ul style="list-style-type: none">• Proteção antivírus abrangente• Reparações automáticas• Proteção de análise de scripts• Proteção do correio eletrónico• Proteção de mensagens instantâneas• Ligação a uma comunidade online que fornece as informações mais recentes sobre programas potencialmente indesejados e ameaças emergentes• Análise agendada• Proteção de Acesso• Análise em segundo plano
Lote 21 – Computer Forensic	<ul style="list-style-type: none">• Utilização de funções de Malesware• Cross-drive analysis• Live analysis• Decryption Suite• Physical Disk Emulator (PDE)• Smartphone Examiner• Data Leakage Prevention (DLP)• Control sensitive data• Recognize data types• Protect at various locations• Reporting and remediation
Lote 22 – Database Security Solution	<ul style="list-style-type: none">• Proteger toda a base de dados dos ataques em tempo real• Ter uma política de base para a transversalidade das Bases de Dados• Permitir a elaboração de relatórios detalhados• Implementação em ambientes heterogéneos em Tecnologias de Informação

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 23 – Email Security	<ul style="list-style-type: none"> • Suporte para ambientes Microsoft • Modelos de filtragem de conteúdo • Proteção contra perda de dados • Maior eficiência do antimalware e antispam através de heurística avançada • Quarentena de mensagens • BlackList • WhiteList • Proteção contínua
Lote 24 – Firewall	<ul style="list-style-type: none"> • Firewall Layer 2 • Firewall Layer 3 • Firewall Protocol: FTP, H.323, HTTP, HTTPS, IMAP4, MS RPC, NetBios Oracle SQL Net, POP3, RSH, SIP, SMTP, SSH, TFTP • User Authentication • High Availability • Suporte IPV6 • Link aggregation (802.3ad) • Link failure detection • Quality of Service (QoS)
Lote 25 – Web Application Firewall	<ul style="list-style-type: none"> • High Performance (milliseconds latency) • Brute Force protection • Cluster mode support • Access Control

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 26 – Sistemas de Detecção de Intrusos / Sistemas de Prevenção de Intrusos IDS/IPS	<ul style="list-style-type: none"> • Monitorização e registo de atividades suspeitas • Análise em tempo real • Produção de alertas • Security Layer 7 Packet Inspection • URL <u>Filtering</u> and Web Protection
Lote 27 – Fraud Prevention Solution	<ul style="list-style-type: none"> • Análise em tempo real • Relatórios de tentativas de fraude • IPsec/SSL VPN (Virtual Private Network)
Lote 28 – Network Access Control	<ul style="list-style-type: none"> • Profile based access • Policy enforcement • Identity and access management • Mitigation of non-zero-day attacks
Lote 29 – SIM (Security Information Management) & SEM (Security Event Management) ou SIEM (Security Information/Event Management)	<ul style="list-style-type: none"> • Real-time event monitoring • Multiple event correlation methods to detect both known and unknown threats while reducing the number of false positives • Dynamic visualization for fast and intuitive threat identification, tracking, and analysis • Integrated risk assessment to understand the overall vulnerability of any particular asset within the enterprise • Comprehensive reporting and forensics for all levels of security operations • Robust incident-management system that organizes security event data and enforces security response workflow • Network Admission Control (NAC) event monitoring, reporting, and case management • Complete event monitoring for all multivendor security environments • Raw events search, Indexed events search

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 30 – Vulnerability Management Tool	<ul style="list-style-type: none"> • Manage Information • Assess Risk • Assess Vulnerabilities • Reporting and Remediation
Lote 31 – Identity Management	<ul style="list-style-type: none"> • Policy Management • Extensible WS-* APIs • User Management • Workflow support • Web Console Access • Credential Management • Rules Based provisioning • Directory Group management • Regulation Compliance • Audit Policy support • Reporting • Strong Authentication support • SAML support • LDAP and ADFS integration • Self Service and password reset interfaces
Lote 32 - Desktop Data Encryption	<ul style="list-style-type: none"> • Policy based encryption • Compliance Reporting • Large File Support • No Recipient Download Required • Message Accessible Via Web Portal • Mobile Devices support • Multiple Verification Methods • Support for SMTP TLS • Identity Based Encryption (IBE)

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none">• Can Send Secure Reply Emails• Self-Service Password Resets• Central Management Console• Policy Management• One-Click Encrypting• Email Tracking• Receive Notices• No Download Options• Configurable Message Expirations• No Key Management Required• Compatible with Active Directory• Branding Options• Digital Signatures support• Automated Bulk Secure Email

Grupo 4 de Lotes - Desenvolvimento

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 33 – Enterprise Search	<ul style="list-style-type: none">• Multiple source support• Federated search support• Customizable Scopes• Async content Crawling + indexing• Security policy support / Customizable results• Multiple content support• Extensible API
Lote 34 – Web Content Management	<ul style="list-style-type: none">• Drag and Drop Editing• HTML 5 Support• Application Development• File Upload• Image and Document Library• Web Importing• WYSIWYG Editing• Page Templates• Form to Email• Calendar• RSS Feed Capabilities• Spell Checking• Customizable URL• SEO Analysis• SEO Suggestions• Surveys• Web Analytics Ready• Meta Data Management• Bandwidth Support• File Storage• Team Collaboration

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none"> • Workflow • Authoring and Publishing • Site Backups • User Roles security • Staging Mode/Sandbox • SSL Certificate Support • Extensible APIs
Lote 35 – Database Management System	<ul style="list-style-type: none"> • High Availability • Scalability support • Data Isolation support • Data Replication support • Management Tools • Development Tools • Application programming Interface • Multidimensional data integration support • Data Mining support • Reporting Tools support • Local and off premise management support • Auditing • Backup and restore tools

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 36 – Business Process Management	<ul style="list-style-type: none"> • Process orchestration engine • BPMN all versions support • Model-driven composition environment for designing processes and their supporting activities and process artifacts • Content interaction management to support the progression of work • Human interaction management • Integration and connectivity capabilities • Active analytics • On-demand analytics to provide decision support or decision automation using predictive analytics or optimization technology • Business rule management • Management and administration • Process component registry/repository for process component leverage and reuse • Social media support • Mobile device support • Audio and Video Support • Role-based user access, user experience and interaction pattern support • Extensible API
Lote 37 – Integrated Development Environment	<ul style="list-style-type: none"> • HTML, JavaScript, XML, WSDL, DML, DDL, C, C++, Java, .NET, PHP, Perl Python support • Support for applications for web, desktop, cloud, server, database and mobile • Intellisense support • Intellitrace support • Local and remote diagnostic and debugging • Application profiling • Multiple compiler support • Type Search • Support for plugins • Multi Monitor support • Automated Unit testing support • Code quality and Review support

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none"> • Lab management • Snippet Support • Extensible API • Software development life cycle (SDLC) support • What you see is what you get (WYSIWYG) editors • Form builders • Support for third-party frameworks/external code • Support for augmented reality/multimoda • Software configuration management • Drag and drop graphical interface widget libraries
<p>Lote 38 – Enterprise Content Management</p>	<ul style="list-style-type: none"> • Core Document Management • Client Integration Capabilities with Popular Office Suites • Versioning • Support for Links, Virtual (Compound Documents) • Common Document Operations • Document Renditions • Security • Navigation • Tagging and Rating • Taxonomy • Content Deletion • Auditing • Core Records Management • Information Rights Management • Managing Document Lifecycles • Document Workflows • Storage • Programmability • Federeatable Search • OCR and ICR Support

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none"> • Extensible APIs
<p>Lote 39 – Enterprise Application Integration</p>	<ul style="list-style-type: none"> • Service Oriented Architecture (SOA) support • Enterprise Service Bus (ESB) support • B2B integration • Cloud services integration • Dependency tracking • Data integration • Application integration • Services Brokerage • Service Portfolio Planning • Enterprise Registry/ Repository • Auditing • Lifecycle Governance • Service Security & Management Policy Management • API Security • Traffic Monitoring • QoS Management • App Management & Provisioning • On-premise or as-a-Service • Orchestration and XML mapping support • Operations Routing • Business Rules Management • Business Activity Monitoring • WS* Policy Support • Caching • Support for proprietary connectors • Support for Industry standards: WS*, REST, SAML; SOAP • BPEL Support • BPMN support • Multiple Pattern Bus Architecture

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none"> • Extensible APIs
Lote 40 – Master Data Management	<ul style="list-style-type: none"> • Web based interface • Scalable • Multiple Version management • Complex Data Validation • Complex Data Cleansing • Complex Data Modeling (All relationship combinations) • Search • Heterogeneous data Integration support • WS* + REST Compliance • Extensible API
Lote 41 – Software Architecture Modelling	<ul style="list-style-type: none"> • UML 2.4.1 support • Structural diagrams support • Use Case Model • Business Process Model • Dynamic Models • Logical Model • Component and Deployment diagrams • Custom Extensions • MDA Transformation support • Model Driven Architecture support • Template driven transformations with DDL, Java, C#, XSD support • Report generation • Documentation generation • Forward and Reverse Code Engineering with C++, Java, C#, VB.Net, Visual Basic, Delphi, PHP, Python and ActionScript support • Support for CORBA • Database modeling • Reverse engineer from DBMS systems, including Oracle 9i and 10g, SQL Server, My SQL, Access,

Lotes	Especificações técnicas dos programas a incluir por lote
	<p>PostgreSQL</p> <ul style="list-style-type: none"> • Model database tables, columns, keys, foreign keys and complex relationships using UML • Model database tables, columns, keys, foreign keys and complex relationships using XML • Integration with SCC compliant Version Control Support • XML Schema Support • Generate complex XML Schema from UML models • Transform simple models into XSD models using MDA transformations, then generate XSD to file • Reverse Engineer XML schema into UML models • Forward Engineer XML schema from UML models • Compare (diff) Utility • Baseline support • Reverse Engineer binary files from Java and .NET • Import/Export of Models in XML format • User Security support • Support for Testing: - Unit tests; - Integration tests; - System tests; - Acceptance tests • WSDL Engineering Support: - Built-in profile for WSDL to simplify development of Web Services using UML; - Reverse Engineer WSDL documents into UML; - Forward Engineer WSDL from UML; - Transform simple models into XSD models using MDA transformations, then generate XSD to file / • Systems Engineering: - Advanced Behavioral Modeling and executable Code Generation; - SysML 1.1, SysML 1.2, SysML 1.3 and Parametric Model simulation; - Hardware Description Language support for SystemC, VHDL and Verilog
<p>Lote 42 – Object Relational Modeling</p>	<ul style="list-style-type: none"> • Visual Designer • Extensible API • Batch Operations support • Code generation for Web services • Code generation for Multiple API services • Stored procedures & functions support • Fetch Optimizations • Dynamic Model Modifications • Custom Types Framework

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none"> • DDL Capabilities • DML Capabilities • Spatial Data Types • Built-in Validation Frameworks • Command line generation tools • Optimistic Concurrency • Pessimistic Concurrency • Advanced Connection Pooling • XML mapping • Pure Attributes mapping • Data Transfer Objects (DTO) / • Self-Tracking Entities
Lote 43 – Application Lifecycle Management	<ul style="list-style-type: none"> • Requirements Management support • Change, version and configuration • Test Cycle Management • Quality Management • Build Management • Distribution Management • Lab Management • Source Control • Version Control • Continuous Integration pattern • Support for Maintenance: <ul style="list-style-type: none"> - Change control details; - Maintenance and fault recording; - Track issues and defects; - Reporting of details fully supported in RTF document generator. • Multiple Stream and merge support • Distributed team activity • Support for customizable workflows

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none"> • Manage change process workflows from initial change requests or requirements through build and turnover for release • Vary workflows for development processes from team to team and from project to project • Share data across phases and activities • Support federated sharing or central storage of metadata for the development resources and processes • Support custom reporting and custom integrations beyond those of the vendor • Work Item, action, activity and Item editor • Commercial support • Extensible API
<p>Lote 44 – Mobile Application Development Platforms</p>	<ul style="list-style-type: none"> • Support for Smartphone, media tablet and feature phone of OS like iOS, Android, BlackBerry OS, Windows Phone and others • Ruggedized device support • Integrated development environment (IDE) for programmers or nonprogrammers • Software development life cycle (SDLC) support • Develop using standards-based languages • Testing with simulator integration and app viewers. • Automated script testing • Web services support • Back-end services integration, B2E connections (such as SAP and Oracle), B2C connectors (such as SQL, video, in-app billing, advertising, social and payment) • Transport robustness for synchronization services between client devices and the mobile back end • Application architecture: native, mobile Web and hybrid app architecture support • Application security and app management: App security includes application life cycle management, enterprise app store features and analytics capabilities. App management includes app scanning capabilities, security certification and authentication integration • B2E front office: Sales force automation, CRM, file sharing, workflow/approvals, business intelligence, management dashboard and other related applications • B2C: Financial services/banking/brokerage, informational/marketing, loyalty/customer service, retail/m-commerce and other related applications

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 45 – Complex Event Processing	<ul style="list-style-type: none"> • Multiple data source support • Monitor data from multiple sources for patterns, trends, exceptions detection • Flexible deployment capability • Asset-based monitoring and aggregation of machine-born data. • Low-latency analysis of aggregated data over variable time frames • Process multiple unrelated events from varied sources to identify a pattern and responds asynchronously when this pattern is identified. • Ability to drive web page layout, navigation, and presentation based on low-latency click stream analysis • Ability to handle peak times • Time-critical query processing • Smart filtering of input data • Ability to define business rules over multiple data sources and over time to automatically trigger actions • Management and diagnostic interface • Query Visualization and Analysis • Query debugging • Programmable API
Lote 46 – Data Integration	<ul style="list-style-type: none"> • Connectivity/adapter capabilities (data source and target support): The ability to interact with a range of different types of data structure, including: <ul style="list-style-type: none"> - Relational databases - Legacy and nonrelational databases - Various file formats - XML - Packaged applications, such as CRM and supply chain management - SaaS and cloud-based applications and sources - Industry-standard message formats, such as electronic data interchange (EDI), Swift and Health Level Seven International (HL7) - Externalized parallel distributed processing (such as Hadoop Distributed File System [HDFS] and other NoSQL-type repositories) - Message queues, including those provided by application integration middleware products and

Lotes	Especificações técnicas dos programas a incluir por lote
	<p>standards-based products (such as Java Message Service [JMS])</p> <ul style="list-style-type: none"> - Data types of a less structured nature, such as social media, email, websites, office productivity tools and content repositories - Emergent sources, such as data on in-memory DBMSs, mobile platforms and spatial applications • Data integration tools must support different modes of interaction with this range of data structure types, including: <ul style="list-style-type: none"> - Bulk acquisition and delivery - Granular trickle-feed acquisition and delivery - Changed data capture (CDC) – the ability to identify and extract modified data - Event-based acquisition (time-based or data-value-based) • Data delivery capabilities: The ability to provide data to consuming applications, processes and databases in a variety of modes, including: <ul style="list-style-type: none"> - Physical bulk data movement between data repositories - Federated views formulated in memory - Message-oriented movement via encapsulation - Replication of data between homogeneous or heterogeneous DBMSs and schemas - Scheduled batch delivery - Streaming/near-real-time delivery - Event-driven delivery of data based on identification of a relevant event • Data transformation capabilities: Built-in capabilities for achieving data transformation operations of varying complexity, including: <ul style="list-style-type: none"> - Basic transformations, such as data type conversions, string manipulations and simple calculations - Intermediate-complexity transformations, such as lookup and replace operations, aggregations, summarizations, deterministic matching, and the management of slowly changing dimensions - Complex transformations, such as sophisticated parsing operations on free-form text and rich media - Facilities for developing custom transformations and extending packaged transformations. • Metadata and data modeling capabilities: As the increasingly important heart of data integration capabilities, metadata management and data modeling requirements include: <ul style="list-style-type: none"> - Automated discovery and acquisition of metadata from data sources, applications and other tools - Discerning relationship between data models and business process models

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none"> - Data model creation and maintenance - Physical to logical model mapping and rationalization - Defining model-to-model relationships via graphical attribute-level mapping - Lineage and impact analysis reporting, via graphical and tabular format - An open metadata repository, with the ability to share metadata bidirectionally with other tools - Automated synchronization of metadata across multiple instances of the tools - Ability to extend the metadata repository with customer-defined metadata attributes and relationships - Documentation of project/program delivery definitions and design principles in support of requirements definition activities - Business analyst/end-user interface to view and work with metadata • Design and development environment capabilities: Facilities for enabling the specification and construction of data integration processes, including: <ul style="list-style-type: none"> - Graphical representation of repository objects, data models and data flows - Workflow management for the development process, addressing requirements such as approvals and promotions - Granular, role-based and developer-based security - Team-based development capabilities, such as version control and collaboration - Functionality to support reuse across developers and projects, and to facilitate the identification of redundancies - Support for testing and debugging • Data governance support capabilities (via interoperation with data quality, profiling and mining capabilities): Mechanisms to work with related capabilities to help the understanding and assurance of data quality over time, including interoperability with: <ul style="list-style-type: none"> - Data profiling tools - Data mining tools - Data quality tools • Deployment options and runtime platform capabilities: Breadth of support for the hardware and operating systems on which data integration processes may be deployed, and the choices of delivery model; specifically: <ul style="list-style-type: none"> - Mainframe environments, such as IBM z/OS and z/Linux

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none"> - Midrange environments, such as IBM System i (formerly AS/400) or HP Tandem - Unix-based environments - Windows environments - Linux environments - Traditional on-premises (at the customer site) installation and deployment of software - Cloud deployment support as a multitenant implementation but requires organizations deploy software in cloud infrastructure - Platform as a service (provided and consumed as a cloud service where clients don't need to deploy software in cloud infrastructure) - In-memory infrastructure - Server virtualization (support for shared, virtualized implementations) - Parallel distributed processing (such as Hadoop and MapReduce) • Operations and administration capabilities: Facilities for enabling adequate ongoing support, management, monitoring and control of the data integration processes implemented via the tools, such as: <ul style="list-style-type: none"> - Error handling functionality, both predefined and customizable - Monitoring and control of runtime processes, both via functionality in the tools and interoperability with other IT operations technologies - Collection of runtime statistics to determine use and efficiency, as well as an application-style interface for visualization and evaluation - Security controls, for both data in flight and administrator processes - A runtime architecture that ensures performance and scalability • Architecture and integration capabilities: The degree of commonality, consistency and interoperability between the various components of the data integration toolset, including: <ul style="list-style-type: none"> - A minimal number of products (ideally one) supporting all data delivery modes - Common metadata (a single repository) and/or the ability to share metadata across all components and data delivery modes - A common design environment to support all data delivery modes - The ability to switch seamlessly and transparently between delivery modes (bulk/batch vs. granular real-time vs. federation) with minimal rework

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none">- Interoperability with other integration tools and applications, via certified interfaces and robust APIs- Efficient support for all data delivery modes, regardless of runtime architecture type (centralized server engine versus distributed runtime)• Service enablement capabilities: As acceptance of data service concepts continues to grow, data integration tools must exhibit service-oriented characteristics and provide support for SOA deployments, such as:<ul style="list-style-type: none">- The ability to deploy all aspects of runtime functionality as data services- Management of publication and testing of data services- Interaction with service repositories and registries- Service enablement of development and administration environments, so that external tools and applications can dynamically modify and control the runtime behavior of the tools

Grupo 5 de Lotes – Produtividade

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 47 – Office Suite	<ul style="list-style-type: none">• Word Processor• Spreadsheet• Image editing• Desktop publishing• Diagram Modeling• SlideShow and multimedia presentation• PDF and ODF format support
Lote 48 – Collaboration	<ul style="list-style-type: none">• File and information sharing• Content management• Authoring and publishing processes• Cross-site publishing• Directory services integration• Programmable API• Workflow• Social network integration• External data access• Mobile devices access• Search capabilities

Grupo 6 de Lotes – Gestão

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 49 – Project and Portfolio Management	<ul style="list-style-type: none"> • Project management • Resource planning and management • Portfolio Management • Task and activity Scheduling • Workflow support • Demand management • Resource Calendars • Timesheets and task management • Security And access control • Built In reporting • Remote access • Shared work support • Extensible API
Lote 50 – Service Management	<ul style="list-style-type: none"> • Support for ticketing prioritized through business service impact analysis • Service catalogs with service costing with chargeback and/or show-back capabilities • Service Lifecycle management • Cloud Service lifecycle management • Service Desk incident management • Remote access support • Mobile device support • Change Management Support • Configuration Database support • Process and workflow support • Change Calendar support • Service Request Catalog support • Service level Support • SLA dashboard and analytics management • Service Cost support

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none">• Workflow support• Supply/demand tracking• Asset Management• IT Asset lifecycle management• Contract Management• Knowledge base support
Lote 51 – Supply Chain Management	<ul style="list-style-type: none">• Software que tem por objetivo integrar os processos da cadeia logística, interna ou externa, desde o fornecedor até ao cliente final• Management of Inventory• Management of finished goods and services• Tracking of requirements needed to complete services• Storage Management• Order lifecycle management• Centralized procurement and supplier support• Logistics and asset management• Planning and forecasting support• Return and claims management

Grupo 7 de Lotes –Informação de Gestão

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 52 – Business Intelligence	<ul style="list-style-type: none"> • Location Intelligence • Master Data Support • What If analysis • Meta Data layer • Drill down/up • Graphs, charts and trees with custom drill down • Drill down of dimensions with previews of current and past derivations • Pivot table • Cross Tabs • Custom calculations • Query Wizard Expertise • Write Back support • Tabular and Multidimensional Semantic model support • OLAP Support • Data Warehouse support • ODS Support • Data Integration and ETL support • Analytical features like ranking, filtering, sorting, group by support • Dashboards/Scorecard with KPI reports • Web Portals with RSS feeds • Interval Grouping support • Distribution reports with XML Publishing • Export reports in different formats (PDF, XLS, TXT, HTML.) • Relational, multidimensional, XML, and custom data sources • Tabular, matrix, chart, and free-form report layouts • Ad hoc reports • Report publishing • Report scheduling • Report subscription

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none"> • Report presentation formats (rendering formats) • Linked reports • Integration with collaboration software • Directory Services integration • Centralized administration • Report security (profile based) • Report encryption • Centralized administration • What-if Scenario Modeling • Descriptive analytics (data mining and segmentation) • Predictive analytics • Optimization analytics
Lote 53 - Information Lifecycle Management	<ul style="list-style-type: none"> • Policy based automation • Integration with continuous backup, versioning and archiving • Data placement on operational and reference data store • Replication and media management • Reference store with index and search • Duplicate detection • Multiple media support • Data protection and compliance archiving • Data Migration control

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 54 - Control Compliance	<ul style="list-style-type: none"> • Risk management: <ul style="list-style-type: none"> - Supports risk management professionals with the documentation, workflow, assessment and analysis, reporting, visualization and remediation of risks. - Data collection from specialized risk analytics tools; • Audit management: <ul style="list-style-type: none"> - Supports internal auditors in managing work papers, and scheduling audit-related tasks, time management and reporting. • Compliance and policy management: <ul style="list-style-type: none"> - Supports compliance professionals with the documentation, workflow, reporting and visualization of controls objectives, controls and associated risks, surveys and self-assessments, attestation, testing, and remediation. - Compliance management will include financial reporting compliance (Sarbanes-Oxley [SOX] compliance), and also support other types of compliance, such as ISO 9000, Payment Card Industry, industry-specific regulations, SLAs, trading partner requirements and compliance with internal policies. • Regulatory change management: Supports the ability to respond to changes in regulations. When a rule is changed or a new one emerges, it enables a business impact analysis and supports the management of the change to related controls, risk assessments and policies.
Lote 55 – Enterprise Asset Management	<ul style="list-style-type: none"> • Asset Lifecycle Management • Support for Intangible Assets such as IP, documents, Patents, Contracts and Leases, Copyrights • Reporting on aspects of the inventory by different classifications • Visibility and reuse of assets in storage • Visibility of the reliability of assets by manufacturer, model and user • Ability to compare asset purchase costs • Ability to keep up to date automatically through bidirectional integration with other systems • Depreciation Calculation and Financial Asset Management • Customizable asset register • Alerts on key events • Support for network Discovery to discover IP based Hardware • Software Asset Management and Software License Compliance

Lotes	Especificações técnicas dos programas a incluir por lote
	<ul style="list-style-type: none">• Integration with existing governance, management and configuration solutions• Full visibility of the Software License Compliance Position• Support for asset reliability through scheduled maintenance and proactive detection of unwanted changes• Support for very large multi company organizations• Support for multiple currency• Barcoding and scanning• Work management for planned and unplanned work activities.• Contract management, purchase, lease, rental, warranty, labor rate, software, master, blanket and user-defined contracts.• Full inventory management, details of asset related inventory and its usage including what, when, where, how many and how valuable.• Procurement management supporting all the phases of enterprise-wide procurement such as direct purchasing and inventory replenishment.• Real estate management and planning.• Facilities, space, and asset management.• Programmable API

Grupo 8 de Lotes – Aplicações

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 56 – Gráficos e Diagramas	<ul style="list-style-type: none">• Inclui ferramentas gráficas• Permite a construção de diagramas de diversas naturezas (funcional, técnica, comercial, entre outras)
Lote 57 – CAD, CAM e CAE	<ul style="list-style-type: none">• Computer-Aided Design (CAD), ou Desenho Assistido por Computador• Computer-Aided Manufacturing (CAM), ou Fabrico Assistido por Computador - inclui software para criar modelos tridimensionais a partir de desenho assistido por computador (CAD)• Computer-Aided Engineering (CAE), ou Engenharia Assistida por Computador• Podem ser incluídas neste lote ferramentas de tratamento de imagem, áudio e vídeo, caso não se tratem de ferramentas de desenvolvimento
Lote 58 – Processamento Estatístico	<ul style="list-style-type: none">• Software de tratamento de dados e estatísticas, para suporte a processos de Business Analytics (BA)• Permite obter conhecimento e produzir planeamento a partir do tratamento estatístico de dados, usando dados e métodos estatísticos• Permite a utilização extensiva de dados, análise estatística e quantitativa e a utilização de modelos de previsão
Lote 59 – Gestão Documental e Workflows	<ul style="list-style-type: none">• Permite a gestão de documentos eletrónicos e imagens de documentos físicos, visando simplificar os processos de criação, gestão, publicação, distribuição e arquivo de documentos• Software construído em torno de uma biblioteca central denominada repositório, que suporta o controlo de acessos, controlo de versões, catalogação, capacidades de pesquisa e a possibilidade de inserir e retirar documentos

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 60 – SIG – Sistemas de Informação Geográfica	<ul style="list-style-type: none"> • Permite a captura, armazenamento, análise e gestão de dados e atributos que estão espacialmente referenciados pela Terra • Possuem uma ferramenta de visualização, podendo eventualmente permitir visualizar mapas através de um web browser, um ambiente para criação de mapas e um servidor para gerir mapas e dados, para visualização online e em tempo real • Suporta KML, GeoSPARQL, CityGML, SQL, Spatial SQL, GML, OWS, WaterML, TML, OMX, OM, OSEO, Programmable API and SDK, Scripting support, LIDAR dataset.
Lote 61 – CRM – Customer Relationship Management	<ul style="list-style-type: none"> • Software que permite a gestão da informação de todos os clientes de uma organização, de forma a tirar partido do conhecimento que se tira dessa mesma gestão • Inclui ferramentas que organizam, automatizam e sincronizam as funções de contacto com o cliente, com o objetivo de ajudar as empresas a criar e manter um bom relacionamento com seus clientes
Lote 62 – Ensino Técnico e Investigação	<ul style="list-style-type: none"> • Software usado tipicamente em ambiente de ensino técnico e investigação em laboratório • Inclui ferramentas de análise matemática, estatística, algorítmica, de programação e todas as funcionalidades específicas essenciais para o fim concreto a que se destinam
Lote 63 – ERP/ERM	<ul style="list-style-type: none"> • Software que permite a gestão de todos os recursos relevantes numa organização, possibilitando a automação e armazenamento de todas as informações de negócios • Estes sistemas integram todos os dados e processos de uma organização, podendo esta integração ser vista sob a perspetiva funcional (sistemas de finanças, contabilidade, recursos humanos, fabrico, marketing e vendas, entre outros) e sob a perspetiva de sistema (sistema de processamento de transações e sistema de apoio a decisão, entre outros)
Lote 64 – ERP/ERM – Saúde	<ul style="list-style-type: none"> • ERP/ERM específicos para a área da Saúde • Suporte para a norma HL7

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 65 – ERP/ERM – Recursos Humanos	<ul style="list-style-type: none">• ERP/ERM específicos que cobrem a área funcional dos Recursos Humanos de uma organização
Lote 66 – ERP/ERM – Finanças e Contabilidade	<ul style="list-style-type: none">• ERP/ERM específicos que cobrem a área funcional das Finanças e Contabilidade de uma organização
Lote 67 – ERP/ERM – Estabelecimentos de Ensino	<ul style="list-style-type: none">• ERP/ERM específicos que cobrem as áreas funcionais dos estabelecimentos de ensino

Grupo 9 de Lotes – Pacotes de software

Lotes	Especificações técnicas dos programas a incluir por lote
Lote 68 – Pacotes de software	<ul style="list-style-type: none">• Produtos de software que foram propostos nos lotes 1 a 67 e que, por estarem relacionados entre si, são usualmente adquiridos em conjunto.