ORACLE CERTIFIED PARTNER

Oracle and F5 Reference Architecture for SOA

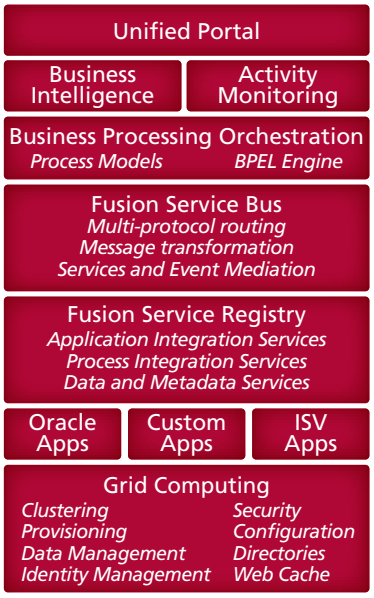
Contents

Background

This document details a joint solution blueprint developed by F5 and Oracle. The purpose of this document is to show how F5 and Oracle components work together to deliver a highly reliable and scalable platform for deploying Oracle Service Oriented Applications.

This Solution Blueprint shows logical components organised into categories that relate to the Oracle's Fusion Architecture.

Oracle Fusion Architecture is a standards-based technology blueprint that details the linkage between all of the Oracle products. Oracle Fusion Architecture is based on three emerging trends in Information Technology:



Oracle Fusion Architecure (OFA)

- ✓ Model Driven
- ✓ Service and Event Enabled
- ✓ Standards-based
- ✓ Information Centric
- ✓ Grid Ready

- **Service Oriented Applications:** An application development and deployment strategy that enables effective, predictable business process changes through standards-based integration of applications developed as web services.
- **Enterprise Information Management:** The systematic management of the complete life cycle of information of all types.
- **Grid Computing Infrastructure:** Predictable, low cost operations of all key infrastructure components that power business applications, such as databases, middleware, and storage.

How to Use this Blueprint

Solution and Technical Architects can use this document in a number of ways:

- To promote awareness and education. This document contains a product-mapping table that will enable Solution/Technical Architects better understand the relationship between F5 and Oracle components. In this table each component is described and mapped to the appropriate F5 or Oracle product. In some cases there are hyperlinks that will direct the user to further information.
- With customers to illustrate the components needed to implement an Oracle Service Oriented Application platform.
- As a building block for other solution blueprints aligned by industry or solution area.

Document Control

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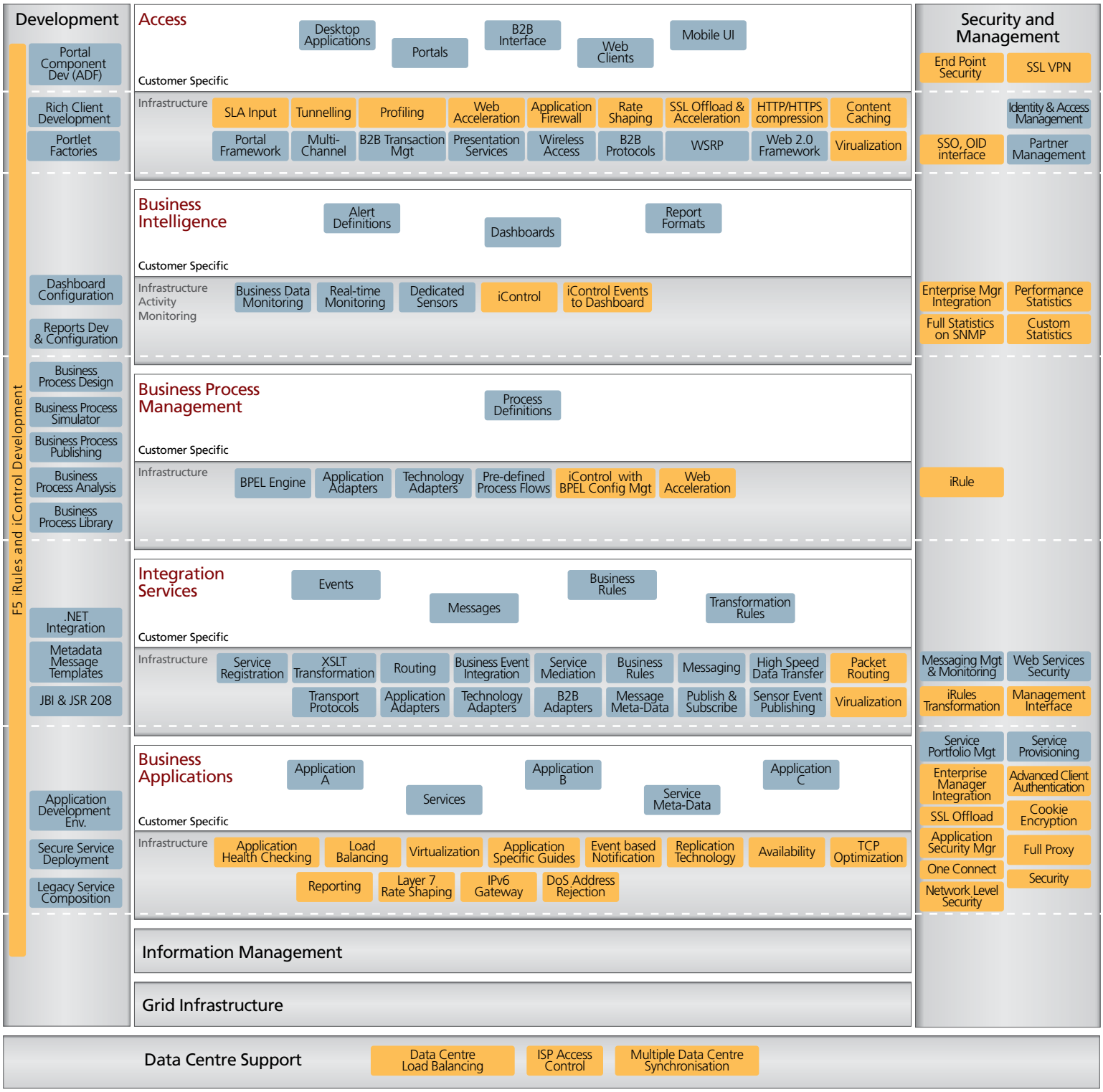
Oracle and F5 Solution Blueprint



SOA Component Mapping to Product

This table maps each detailed component of the Fusion Architecture Blueprint to either an Oracle product, custom development, or indicates that it needs to be obtained from a third party.

The yellow components represent F5 technology, describing where they fit and which products to choose for the solution. These functions work between layers 4-7 of the ISO stack.

The F5 BIG-IP® system is an Application Delivery Network (ADN) platform that provides security, performance optimisation, and availability to enterprise applications. F5's revolutionary **TMOS™ architecture** is at the heart of all BIG-IP platforms, efficiently isolating clients from the server-side flows to increase application performance and allow custom payload inspection and transformation capabilities with **iRules™**.

F5 BIG-IP Local Traffic Manager (LTM) is a local data centre solution and is aware of everything contained in the traffic going to and coming from the applications, enabling it to guarantee availability and accelerate application performance. BIG-IP LTM functionality can be enhanced through the licensing of additional modules to add value to the base product.

F5 BIG-IP Global Traffic Manager (GTM) provides multi-data centre availability with immediate re-routing based on current data centre performance or availability. This capability can provide active/active data centre utilisation or as a disaster recovery solution.

F5 BIG-IP Link Controller™ is a solution that manages multiple ISP links, providing a highly available consolidated view of these links to meet business demands.

F5 FirePass® SSL VPN appliance provides secure access to corporate applications and data using a standard web browser. FirePass helps increase the productivity of those working from home or on the road while keeping corporate data secure.

Please refer to http://www.f5.com/products/ for more in-depth information.

Access—Infrastructure

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
SLA input	Through the ISP load balancing capability and logging, SLA information can be obtained to prove-up time statistics.	F5 BIG-IP system and Enterprise Manager	
Tunnelling	F5's layer 3 tunnel enables both split- and full-tunnelling and includes built-in VLAN support.	FirePass (also available on the F5 BIG-IP system Q4 2007)	
Profiling	A profile is an object that contains user-configurable settings, with default values, for controlling the behaviour of a particular type of network traffic, such as HTTP connections. Using profiles enhances your control over managing network traffic, and makes traffic management tasks easier and more efficient. A dynamic policy engine—a rules-based engine that authenticates users, authorizes access, and applies client security policies based on the user and device being used for remote access.	F5 BIG-IP system and FirePass for policy creation	
Web Acceleration	An advanced web application delivery solution that provides a series of intelligent technologies designed to overcome problems with browsers, web application platforms, and WAN latency issues which impact user performance. By leveraging F5's Intelligent Browser Referencing (IBR) features, BIG-IP WebAccelerator can increase interactive user performance up to 10x for web applications, portal, CRM, and collaboration software such as Oracle Portal, Siebel, Hyperion, PeopleSoft, and other custom and home-grown web applications.	F5 BIG-IP LTM or WebAccelerator (stand alone)	
Virtualisation	Virtualisation is performed to reduce the complexity of user session connection to specific servers. It also prevents access to specific servers by hackers as only the BIG-IP LTM is visible.	F5 BIG-IP LTM	
Portal Framework	Definition of Portal User interface.		Oracle Portal
Wireless Access	Provides wireless access capability.		Oracle Application Server–Wireless
Multi-Channel	Frameworks that provide integration between applications and various non-Web/HTML-based channels.		Oracle Service Delivery Platform • Communication & Mobility Server (HotSIP) Oracle Service Delivery Platform • Oracle Virtual PBX
B2B Protocols	Multiple B2B protocol support.		Oracle B2B
B2B Transaction Management	B2B transaction management. Complex protocols such as RosettaNet imply a complex dialog which is handled by this component.		Oracle B2B
WSRP	JSR 168 is the Web Services Remote Portal standard for Java Portlet specification to aggregate portlets and access data sources.		Oracle Portal
Presentation Services	Helps structure the data in the target device format.		Oracle Portal
Web 2.0 Framework	Component-based framework for building single web interfaces to access business applications, enterprise content, business intelligence, enterprise search, communication and collaboration services, and web 2.0-centric applications.		Oracle Web Center

Access—Development

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Portal Component development	Set of tools to develop portlets, build the UI, and connect to back-end services.		
Portlet factories	Portlet factory for SOA-based portlet development.		ADF
Rich Client Development	User development environment, based on standards, allowing contextual access to data and applications, and providing web 2.0 technologies.		Oracle Portal Factory V5.1

Access—Security

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
End-Point Security	End-point security verifies that desktop antivirus and firewall software is in place, systems are patched, keyloggers or other dangerous processes are not running, and sensitive data is not left behind in web caches and other vulnerable locations. End-point security is an essential function of an SSL VPN. The F5 FirePass SSL VPN appliance enforces an especially robust end-point security model.	F5 FirePass SSL VPN (enforces end-point security model)	

Access—Security & Management

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
SSL VPN	SSL VPN connections are the preferred and most secure way of connecting users to the application and ultimately the data. It needs to be easy to configure and ensure a robust connection between the user and the application.	F5 FirePass SSL VPN	
SSO, OID interface	F5's universal access approach provides user authentication and resource-level authorization prior to the user accessing network resources, web and application servers, and legacy applications without making any modifications to existing applications. Through this process user credentials are verified and passed to the back-end resource. F5 interfaces with the Oracle ID Manager to use the security profiles for user authentication.	Authentication offload is a standard feature on F5 BIG-IP LTM (authentication offload); OID interface is an optional module on F5 BIG-IP LTM	
Identity & Access Management	Connection at technology level.		Oracle Application Server Identity Management or Oracle Access Manager
Partner Management			

Business Intelligence—Activity Monitoring

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Real Time Event Monitoring	Event monitoring and capture using sensors.		Oracle Business Activity Monitoring
Dedicated Sensors	Those sensors plug to various technologies (for example, BPEL, database).		Oracle Business Activity Monitoring
Business Data Monitoring	Business data are compared to KPI, or are processed and results are displayed.		Oracle Business Activity Monitoring
iControl	iControl is an SDK with which a developer can control the F5 managed environment from within an application.	F5 BIG-IP LTM	
iControl events to Dashboard	iControl is used to enable data to be passed to the dashboard or any other system or application.	F5 BIG-IP LTM	

Business Intelligence—Development

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Dashboard Configuration	Configure business activity dashboards.		Oracle Business Activity Monitoring
Reports Dev & Development	Report development and configuration tools.		Oracle Business Activity Monitoring • Oracle Reports Developer

Business Intelligence—Security & Management

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Enterprise Manager	Plug-in that enables Oracle Enterprise Manager to use the advance monitoring and control capabilities and to optimize enterprise application delivery performance while reducing management costs and complexity.	F5 BIG-IP LTM	
Full Statistics on SNMP	BIG-IP Global Traffic Manager (GTM) integrates its MIBs and a SNMP agent with DNS. This enables SNMP management applications (for example, Oracle Enterprise Manager) to read statistical data about the current performance of BIG-IP GTM. SNMP management packages have an exact view of what BIG-IP GTM is doing, while keeping an eye on standard DNS information.	F5 BIG-IP LTM	
Custom Statistics	Extensive logging of all aspects of packets managed between the user and the application servers.	F5 BIG-IP LTM (captures data for logging)	
Performance Statistics	Extensive logging of all aspects of packets managed between the user and the application servers.	F5 BIG-IP LTM	

Business Process Management—Infrastructure

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
BPEL Engine	BPEL-based process orchestration engine.		Oracle BPEL Process Manager
Technology Adapters	Today adapters are directly connected to BPEL. The next step will be to have BPEL using the ESB to connect to other services.		Oracle BPEL Process Manager
Application Adapters	Same as technology adapters.		Oracle BPEL Process Manager
Pre-defined Process Flows	Pre-defined integration processes (PIPs), representing best-practice integration between applications like Siebel and Oracle applications. These flows can be modified and customized.		Oracle Application Integration Architecture
iControl with BPEL config management	iControl is an SDK with which a developer can control the F5 managed environment from within an application.	F5 BIG-IP LTM	
Web Acceleration	An advanced web application delivery solution that provides a series of intelligent technologies designed to overcome problems with browser technologies and enhance their performance, web application platforms, and WAN latency issues which impact user performance. By leveraging F5's Intelligent Browser Referencing (IBR) features, WebAccelerator can often increase interactive user performance up to 10x for web applications, portal, CRM, and collaboration software such as Oracle Portal, Siebel, Hyperion, PeopleSoft, and other custom and home-grown web applications.	Add-on to F5 BIG-IP LTM or standalone	

Business Process Management—Development

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Business Process Designer	Taking the output from BPA Suite and making changes before loading the process definitions into BPEL Manager.		Oracle JDeveloper
Business Process Library	Library of defined business processes described in BPEL.		Oracle BPEL Process Manager
Business Process Analysis	Tool to model the business process and to automatically generate the BPEL code.		Oracle Business Process Analysis Suite
BP Publishing	To provide access to BP as design time through the web or through Windows.		Oracle Business Process Publisher
BP Simulator	To simulate at design time the running of a BP Integrated service development environment.		Oracle Business Process Simulator (Oracle Business Process Analysis Suite)

Business Process Management—Security & Management

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
iRules™	iRules™ is a scripting language that enables the enforcement and change of specific types of behaviour around application delivery. F5 has developed an iRules On-Demand service to complement existing resources available to customers and partners using F5's powerful iRules scripting language.	F5 BIG-IP LTM	

Integration Services—Infrastructure

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Service Registry	Standards-based registry/directory of services.		Oracle Service Registry (Sysintnet)
XSLT Transformation	Transformation of massage data format.		Oracle Enterprise Service Bus
Messaging	Robust messaging infrastructure.		Oracle Enterprise Service Bus Oracle Advanced Queueing Enterprise Messaging Service
Transport Protocols	Multi-protocol support.		Oracle Enterprise Service Bus
Routing	Routing rules and implementation. Routing capabilities based on message format, not on content.		Oracle Enterprise Service Bus
Service Mediation	Capability to loosely couple service interactions.		Oracle Enterprise Service Bus
Business Event Integration	Entity that processes events, gathers them, applies rules, and publishes them.		Oracle Enterprise Service Bus
Business Rules	Rules engine for business users to create/update policies.		Oracle Business Rules
Application adapters	Oracle Fusion adapters and others.		Oracle Integration Adapters
Technology adapters	File, FTP, AQ, database, and JMS adapters.		Oracle Enterprise Service Bus
Message Meta-data	Library of pre-defined message formats (for example, OAG) and associated mappings.		Presently in iStudio and will be in Oracle Enterprise Service Bus
B2B adapters	To provide EDI, RosettaNet, and ebXML protocols.		Oracle B2B
Publish & Subscribe	The means for applications to subscribe to events.		Oracle Enterprise Service Bus
Sensor Event Publishing	Common way for all sensor apps to integrate with other applications is by publishing events in the ESB.		Oracle Enterprise Service Bus
Service Registry	Standards-based registry/directory of services.		Oracle Service Registry (Sysintnet)

Integration Services—Infrastructure *(continued)*

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Packet routing	As each packet of content is inspected, it can be routed to the most suitable server pool for processing.	F5 BIG-IP LTM (configurable option)	
Virtualisation	Virtualisation is performed to reduce the complexity of a user session connection to specific servers. It also prevents access to specific servers by hackers as only BIG-IP LTM is visible.	F5 BIG-IP LTM	

Integration Services—Development

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Metadata Message Templates	A long list of predefined, standard message formats, such as OAG, which are already stored.		Currently in iStudio and will be in Oracle Enterprise Service Bus
JBI & JSR 208	Java Business Integration, including WSIF for WSDL bindings.		Oracle JDeveloper
.NET Integration	Ability to connect the Java world and the Microsoft .NET world.		Oracle Developer Tools for .NET Oracle DB Extensions for .NET

Integration Services—Security & Management

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Web Services Security	Provide tools to manage a web service-centric security model controlling and defining access policy.		Oracle Identity Manager
Messaging Management & Monitoring	Managing messaging infrastructure.		Oracle Enterprise Service Bus
iRules transformation	iRules is a scripting language that enables the enforcement and change of specific types of behaviour around application delivery. F5 has developed an iRules On-Demand service to complement existing resources available to customers and partners using F5's powerful iRules scripting language. iRules are used to transform data within packets to conform to business rules.	F5 BIG-IP LTM	
SSO, OID Interface	This is standard on F5's BIG-IP LTM. Interconnection to Oracle EM is an optional extra.		Standard management support interface is web browser based. Can also feed into Oracle Enterprise Manager

Business Applications—Infrastructure

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
App. health checking	Application response is monitored for changes in performance and health.	F5 BIG-IP LTM	
Load balancing	Load balancing is part of a larger capability that comes under the heading of global and local traffic management. Load balancing refers to distributing incoming HTTP requests across web servers in a server farm, to avoid overloading any one server. Because load balancing distributes the requests based on the actual load at each server, it is excellent for ensuring availability and defending against denial of service attacks.	F5 BIG-IP LTM	
Virtualisation	Virtualisation is performed to reduce the complexity of user session connection to detailed servers. It also prevents access to specific servers by hackers as only BIG-IP LTM is visible (this allows for scaling of the application environment without major reconfiguration).	F5 BIG-IP LTM	
Application-specific guides	This provides specific support for specific applications such as Siebel and Oracle Application Server. Application deployment guides and tools provide step-by-step instructions for application-specific implementation.	F5 Solution Center	
Event-based notification	Specified events that require notification can be set to do so through the use of iRules or iControl to other third-party applications, either as standard or as a bespoke function.	F5 BIG-IP LTM	
Replication technology	Enables data to be quickly distributed between data centres in order to ensure that little data is at risk of loss due to system failure. This works with Data Guard.	Use F5 WANJet®	
Reporting	There is significant scope for reporting. This can be achieved through bespoke settings or standard mechanisms.		Oracle Enterprise Manager plug-in available from Oracle that interoperates with BIG-IP LTM
Layer 7 Rate Shaping	Contention for shared bandwidth often degrades application performance, and organizations have little control in guaranteeing that high priority traffic is passed ahead of non-priority traffic. BIG-IP L7 Rate Shaping Module adds fine-grained bandwidth control to better manage application bandwidth usage and traffic spikes. • Ensures application performance and availability • Reduces device costs • Sophisticated bandwidth control • Granular traffic classification L2 through L7 • Rate limiting (security function that ensures specific types of application traffic stay within authorized boundaries)	F5 BIG-IP LTM with Rate Shaping Module	
IPv6 Gateway	This enables the environment to support both IPv4 and IPv6 protocols, enabling the company to gradually move from one to the other without the need to worry about application dependencies while doing so.	F5 BIG-IP LTM with IPv6 Module	

Business Applications—Infrastructure *(continued)*

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
DoS, IP Address Rejection	DoS and DDoS (known as SYN flood) attacks can be prevented using the SYN Check facility. The BIG-IP SYN CHECK feature works to alleviate SYN floods by sending cookies to the requesting client on the server's behalf, and by not recording state information for connections that have not completed the initial TCP handshake. This unique feature ensures that servers only process legitimate connections and the BIG-IP SYN queue is not exhausted, enabling normal TCP communications to continue. The SYN CHECK feature complements the BIG-IP Dynamic Reaping feature that handles established connection flooding. SYN CHECK addresses embryonic connection flooding to prevent the SYN queue from becoming exhausted. Working in conjunction with a high-performance SYN cache, SYN CHECK enables you to use SYN cookies without the loss of TCP options.	F5 BIG-IP LTM using iRules	
Availability	Availability of data centres, applications, and servers is maintained through the use of BIG-IP LTM. This is a function of all capabilities mentioned in this section.	F5 BIG-IP LTM and BIG-IP GTM	
Acceleration (TCP Optimisation)	TCP/IP inefficiencies, coupled the effects of WAN latency and packet loss, all conspire to adversely affect application performance. F5 BIG-IP LTM provides a state-of-the-art TCP/IP stack that delivers dramatic WAN and LAN application performance improvements for real-world networks. This highly optimized TCP/IP stack, called TCP Express, combines cutting-edge TCP/IP techniques and improvements in the latest RFCs with numerous improvements and extensions developed by F5 to minimize the effect of congestion and packet loss and recovery. This can deliver up to a 2x performance gain for end users and a 4x improvement in bandwidth efficiency with no change to servers, applications, or the client desktops.	F5 BIG-IP LTM	

Business Applications—Development

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Legacy Service Composition	Integrated Legacy Service Wrappering development.		Oracle JDeveloper
Secure Service Deployment	Tool to ensure secure deployment of services.		Oracle Web Services Manager
Application Development Environment	Tools to develop applications.		Oracle Application Express

Business Applications—Security and Management

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Service Portfolio Management	This implies classifying, versioning, defining ontology, and so on.		Oracle Repository Service
Service Provisioning	Provide access to services.		Oracle Repository Service
Oracle Enterprise Manager Integration	Plug-in that enables Oracle Enterprise Manager to use the advance monitoring and control capabilities, providing visibility to optimize enterprise application delivery performance while reducing management costs and complexity.	F5 BIG-IP LTM (add on)	
Adv. Client authentication	F5's Advanced Client Authentication software module for use with the BIG-IP LTM provides client authentication of HTTP and other traffic types for a variety of authentication schemes, including LDAP, Radius, TACAS, SSL, and OCSP. The Advanced Client Authentication module with BIG-IP LTM offers the following benefits: • Provides a customizable authentication framework that gives you the ability to choose the authentication scheme that best fits your needs, and enables you to quickly change and deploy new authentication schemes as required. • Reduces your TCO by centralizing application authentication to a single authentication cache, which reduces administrative burden, latency, and minimizes configuration errors. • Increases server and application capacity by offloading authentication processing, including authentication of SSL certificates. • Checks user credentials or SSL certificates using the authentication scheme of your choice before granting network access, stopping unwanted traffic before it reaches your servers and applications. • Load balances authentication servers to continuously protect your network and application infrastructure. • Reduces test and development efforts for web applications because all authentication is done at the BIG-IP device level. SSO is managed through the creation of a pool and virtual server to which the traffic will be applied. It pprovides client authentication of HTTP and other traffic types for a variety of authentication schemes, including LDAP, Radius, TACAS, SSL, and OCSP and Oracle ID Manager.	F5 BIG-IP LTM (with Advanced Client Authentication module)	
SSL Offload	If you are using SSL to protect your HTTP basic authentication traffic, you must configure BIG-IP LTM to perform the server-side SSL handshake that the remote server would normally do when authenticating traffic. This offloads SSL processing from your application servers, making your network more efficient. (How it works: It offloads the certificate exchange and the bulk encryption to hardware providing exceptional performance and reducing the application server load. It then centralizes certificated management which reduces management costs and certificated costs by not requiring certificates on each individual server. If end-to-end SSL is required, traffic can be re-encrypted while maintaining the benefits of centralized management.)	This F5 BIG-IP Local Traffic Manager LTM (configurable option)	

Business Applications—Security and Management *(continued)*

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Cookie Encryption	This powerful feature provides organizations the ability to encrypt and authenticate cookies used in application traffic, which prevents hackers from exploiting cookies to launch application attacks. With cookie encryption and authentication enabled, hackers cannot read cookies to access information like JSessionIDs and user IDs that can be used later to modify a cookie and establish an illegal session. The BIG-IP system provides superior protection for stateful applications used in the enterprise by protecting against attacks like session hijacking and cookie tampering that exploit critical application vulnerabilities by rewriting the content of a cookie.	F5 BIG-IP LTM (configurable option)	
Application Security Manager	BIG-IP LTM performs deep packet inspection of the entire application payload to provide powerful application-level security. The Application Security Manager is a software add-on that extends the BIG-IP system, turning it into an enterprise-class web application firewall, providing comprehensive, proactive, application-layer protection against both generalized and targeted attacks. Utilizing a positive security model (deny all unless allowed), BIG-IP Application Security Manager (ASM) permits only valid and authorized application transactions, while automatically protecting critical web applications from attacks. BIG-IP ASM protects against application, infrastructure, and network attacks, such as cross-site scripting, SQL injection, cookie/session poisoning, parameter tampering, forceful browsing, application platform exploits, and zero-day attacks. ASM protects against entire classes of HTTP and HTTPS-based threats (both known and unknown) rather than only guarding against a limited list of known attacks. In addition, you can use iRules to examine application traffic (HTTP, HTTPS, web services), filter applicable application traffic through ASM, and block application-level attacks and threats.	F5 BIG-IP LTM (with ASM)	
Full proxy	Full proxy available for application servers.	F5 BIG-IP LTM	
OneConnect	The OneConnect™ feature enables BIG-IP LTM to maximize HTTP session performance and server resource utilization by aggregating multiple user requests to use persistent, pre-tuned server sessions. By using persistent server sessions, BIG-IP LTM eliminates the wait associated with TCP session negotiation and tuning, which can significantly reduce session performance for small request sizes (like many HTTP requests).	F5 BIG-IP LTM	
Network Level Security	Protection against network security attacks. Enforce, fortify, and implement security policies for your networking infrastructure. With features like DoS and SYN attack prevention, packet filtering, and protocol sanitization, organizations can protect themselves against the heaviest of attacks and control the information traversing in and out of their site.	F5 BIG-IP LTM	
Security	Security comes in a variety of forms, from virtualisation of applications to prevent drill-down access to application servers, full proxy services, (ASM offers an application firewall that fills the security gap left by web firewalls) and encryption.	F5 BIG-IP ASM	

Data Centre Support—Infrastructure

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
Data Centre Load Balancing	This distributes end user application requests according to business policies, data centre capabilities, and network conditions to ensure the highest possible availability.	F5 BIG-IP GTM	
ISP Access Control	As organizations increase their use of the Internet to deliver applications, maintaining only one link to the public network exposes a single point of failure and serious network vulnerability. The BIG-IP Link Controller seamlessly monitors availability and performance of multiple WAN ISP connections to intelligently manage bi-directional traffic flows to a site, providing fault tolerant and optimized Internet access.	BIG-IP Link Controller	

Overall—Development

Component	Narrative	F5 Product/ Feature	Oracle Product/ Feature
iControl	iControl is an SDK with which a developer can control the F5 managed environment from within an application.	F5 BIG-IP LTM	
iRules	iRules is a scripting language that enables the enforcement and change of specific types of behaviour around application delivery. F5 has developed an iRules™ On-Demand service to complement existing resources available to customers and partners using F5's powerful iRules scripting language.	F5 BIG-IP LTM	

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