



IBM System Storage Data Center Fabric Manager (DCFM) V10 supports end-to-end enterprise-class data center fabric management

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At a glance

IBM® System Storage[™] Data Center Fabric Manager (DCFM) V10 (5639-D1F) is designed to:

- Deliver end-to-end enterprise-class data center fabric management across multiple fabrics
- Support director-class installations, FICON® environments, and user leveraging of routing and extension devices
- Scale to manage up to 24 fabrics and 9,000 ports
- Monitor network traffic and maintain uptime
- Deliver enhanced performance with fast discovery and data collection
- Reduce administration time and complexity by automating management tasks
- Drive alignment with corporate security policies and standards

For ordering, contact:

Your IBM representative or an IBM Business Partner. For more information, contact the Americas Call Centers at 800-IBM-CALL (426-2255).

Reference: YE001

Overview

The IBM System Storage Data Center Fabric Manager (DCFM) V10 software is a data center fabric management application designed to deliver performance and scalability, keeping pace with the ever increasing amount of data that move across the network. DCFM enables you to take advantage of the next generation of technologies delivered with the IBM b-type directors, switches, routers, and Brocade Fabric Operating System (FOS). In addition, DCFM can manage mixed fabrics comprised of b-type devices running Brocade FOS and m-type devices running with McDATA Enterprise OS (M-EOS).

Highlights of DCFM V10 include the following:

- The ability to manage multiple SAN fabrics through a centralized view.
- Support for protocols, including Fibre Channel, Fibre Connectivity (FICON), Fibre Channel over IP (FCIP), Fibre Channel Routing (FCR), and Internet SCSI (iSCSI)
- The ability to display, configure, and set zoning for directors, switches, and routers
- Support for monitoring, troubleshooting and diagnostics, and event notifications proactively

- Support for server virtualization including visualizing, managing inventory, and setting the Quality of Service (QoS) levels for applications running on virtual machines
- Access and flow of data from applications to storage across the data center fabric by managing user access controls, supporting consistent security settings across devices and incorporating end-to-end encryption solutions
- Real-time and historical performance monitoring to enable proactive problem diagnosis and resolution, increase asset utilization, and facilitate capacity planning based on historical usage trends
- The ability to automate repetitive tasks using an intuitive wizards-driven approach
- Integrate seamlessly with leading third-party data center automation

Key prerequisites

You are responsible for supplying a management server with specific capabilities and to install the DCFM software on this server. To install IBM System Storage Data Center Fabric Manager (DCFM) V10, one of the following platforms is required:

- Windows® 2003 Server with XP, Vista and 2008 Server
- Red Hat Linux® AS 4.0, Red Hat Enterprise Linux 5 Advanced, and SUSE Linux Enterprise Server 10 SP1
- Sun Solaris 10
- VMware ESX Server 3.5

For more information and documentation regarding installation and planning for DCFM V10 including server CPU and memory requirements, visit

<http://www.ibm.com/systems/support/storage/san>

Planned availability date

November 14, 2008

Description

IBM System Storage Data Center Fabric Manager (DCFM) V10 is a network management application designed to enable comprehensive end-to-end management of the Data Center Fabric architecture. It can manage and secure the flow of data across multiple fabrics. DCFM is designed to enable IT organizations to support their goals related to SLAs, security and compliance, and operating expenses.

Because IT organizations must cope with the explosion of data moving across today's networks, DCFM can deliver scalability and performance to help support high levels of network availability. IT organizations must continue to do more with less. Easy-to-use administration tools can help simplify DCFM and streamline repetitive tasks to deliver needed organizational efficiencies.

DCFM can help you configure and manage the IBM SAN b-type and m-type directors, switches, and routers. It is tightly integrated with and expands the unique capabilities of FOS using features such as Advanced Performance Monitoring, Fabric Watch, and Adaptive Networking. As part of a common management framework, DCFM integrates with leading third-party data center automation solutions through various integration mechanisms along with Brocade Storage Management Initiative - Specification (SMI-S) providers.

DCFM can manage multiple data center fabrics to help support high availability and performance. DCFM is designed to deliver monitoring, troubleshooting, and diagnostics with proactive event notification:

- Proactively monitor critical fabric health information at varying levels of detail.
- Configure QoS priorities for applications running on both physical and virtual servers so that critical applications can receive the required bandwidth priority.

- Collect and display performance statistics (port-level and end-to-end) both in real-time and historical views to facilitate proactive problem determination.
- Enable administrators to capture, back up, and compare switch configuration profiles. Advanced cloning facilities distribute switch profiles across the fabric for configuration consistency and to aid in rapid restoration of previous configurations.
- Perform automatic data collection and trigger Call Home notification to specified service centers, enabling fault isolation, diagnosis, and remote support.
- Offer proactive alerts with e-mail and pager notification, including detailed real-time logging along with diagnostic and fault isolation capabilities to resolve issues before they affect service levels.

DCFM enables IT organizations to secure the flow of data across the data center fabric by managing access control for consistent security settings across devices while incorporating end-to-end encryption solutions:

- Allow multiple levels of user access and views with flexible definitions of administrator roles and responsibilities for robust data access control and security.
- Establish consistent security settings (RADIUS, AD, LDAP) and SNMP configuration across multiple switches.
- Manage the configuration and management of Brocade fabric-based encryption products.
- Support standards-based security features for access control and SAN protection by enabling:
 - Support for IPv6
 - Wizards to enable security mode
 - Policy editors
 - End-to-end HTTPS secure connectivity
- Integrate with leading authentication, authorization, and accounting solutions such as RADIUS, AD/LDAP, NIS, and NIS+.

DCFM can give IT organizations visibility into performance utilization of hardware and network bandwidth with asset tracking and reporting capabilities:

- Measure and display real-time and historical network performance to identify underutilized or overutilized links and to improve application availability and performance.
- Help support return on investment (ROI) of hardware purchases by better utilizing existing infrastructure resources and identifying new network requirements.
- Discover and generate an inventory of components while creating an intuitive component map to help visualize the end-to-end topology of the SAN, including SAN devices, storage ports, HBAs, and virtual machines.
- Facilitate capacity and availability planning with reports that can be easily shared across the IT organizations.

DCFM gives IT administrators the tools that can save time and money by automating repetitive tasks using a wizards-driven approach:

- Streamline firmware download, switch configuration, backup/restore, and collection of SupportSave diagnostic data across groups of devices versus one device at a time.
- Manage firmware levels across logical groups of devices by offering fabric profile policies via recommendations for appropriate firmware along with reports on SAN-wide firmware inventory.
- Set up a "zoning library" for each fabric, as well as a global "zoning library." Leverage zoning reports for every active zone set. The archive feature can save all activated zone sets to files, which enable administrators to quickly activate a previous zone configuration.
- Enable administrators to edit zone information without affecting the production fabric and preview the impact of proposed changes before committing to them.
- Provide a configurable fabric snapshot and compare capability to track changes to fabric objects and membership.
- Customize and generate reports for operating status change, port usage, zoning activation, and more -- either on-demand, automatically on a scheduled basis, or in response to a fabric event.

- Enable management console views for FICON environments. Configure and manage FICON and cascaded FICON environments and provide powerful analysis and diagnostic facilities for FICON fabrics.
- Configure and monitor Fibre Channel over IP (FCIP) tunnels across WAN links, including Quality of Service (QoS) and FICON emulation parameters.
- Deliver support for FCR (Fibre Channel Routing) including configuration, zoning, visualization of the backbone, edge fabrics, and interfabric links, with powerful analysis and troubleshooting tools, and more.

DCFM V10.0 delivers the following:

Fabric Health View offers an at-a-glance view of the switch and ISL health status, including a Connectivity Map showing the status per device, performance utilization rate per ISL and visualization of end devices; Product List for devices discovered; and a Master Log to monitor fabric events, such as:

- Determine log size
- Enable and disable log paging
- Hide and show selected events
- Display event details

Performance monitoring enables users to proactively address performance issues with both real-time and historical performance data collection, monitoring, and graphical displays across FC, FCIP, and FCR ports and connections. Leveraging a policy-driven approach, Performance monitoring also sets thresholds for both individual ports and end-to-end between the source (application) and target (disk).

Fault management enables users to manage events and failures in the data center by configuring rules-based events. Users can define four types of triggers (ISL Offline, Security Violation, Performance Threshold Crossing, and Simple Events), which can trigger three types of user actions (launch a script, broadcast a message, and send e-mail).

Troubleshooting and diagnostics provides wizards to perform troubleshooting and diagnostic activities to aid rapid problem resolution.

Wizards include:

- **Device connectivity troubleshooting**, which checks several common issues that might prevent devices from communicating with each other and makes recommended next steps
- **Device-sharing diagnosis**, which verifies whether two selected fabrics are configured properly to share devices between routed fabrics
- **Trace route**, which performs a trace route check from a source port on a local switch to a destination port on another switch and determines detailed routing information between them

With **Advanced Call Home** users can configure DCFM to automatically call into their service center when specified triggering conditions have been met. This feature enables the service center to be configured on a per-switch basis and leverages supported methods (email, modem, and LAN) to contact the service center. Advanced Call Home includes fine-grained control over which events trigger a Call Home, and what DCFM should do in response to those events, including automatically capturing diagnostic information from the switches as part of the call home event.

Zoning enables users to:

- Analyze the impacts of zoning changes offline without affecting the production fabric
- Compare-merge zoning changes to prevent zone configurations from being accidentally overwritten
- Set the desired QoS for applications running on both physical and virtual servers
- Perform Logical SAN (LSAN) zoning, which allows multiple fabrics, local or remote, to connect with each other without merging

Configuration management enables backup of critical configurations across data centers on an automated basis. It supports configuration consistency across the enterprise with the ability to:

- Save switch configurations
- Restore switch configurations with a single-click
- Conduct firmware downloads to groups of devices instead of individual switches
- Replicate "golden" configurations to multiple other switches

Security management:

- Allows multiple levels of user access and views with flexible definitions (read-write, read only, and no privileges) of administrator roles and responsibilities
- Helps maintain consistent security settings (RADIUS, Active Directory, LDAP, and SNMP configuration) across multiple switches by leveraging the security replication wizard
- Manages the configuration, settings, and ongoing management of Brocade fabric-based, data-at-rest encryption products
- Supports standards-based security features for access controls, including support for IPv6, wizards to enable security mode, policy editors, and end-to-end HTTPS secure connectivity
- Integrates with leading authentication, authorization, and accounting solutions such as RADIUS, AD/LDAP, NIS, and NIS+

DCFM V10 configures and manages FICON and cascaded FICON environments while enabling powerful analysis and diagnostics with facilities such cascaded FICON wizards, which include:

- Configuring FICON fabrics and merging FICON fabrics
- Hex display properties for seed switch domain ID
- User port number
- Area ID/Port Index

Additional FICON capabilities include:

- SAN level RNID data display
- Port Connectivity Dialog
- FICON Emulation support
- Multi-PDCM matrix display

DCFM V10 also configures, monitors, and optimizes Fibre Channel over IP (FCIP) tunnels across WAN links, as well as provides comprehensive support for Fibre Channel Routing, including configuration, zoning, visualization, analysis, and troubleshooting tools.

DCFM upgrade features

IT organizations have functional continuity when upgrading from Enterprise Fabric Connectivity Manager (EFCM) or Fabric Manager (FM) to DCFM.

Existing customers of McDATA Enterprise Fabric Connectivity Manager (EFCM) V8 or 9.0: Existing customers of EFCM V8 (5697-J37) or EFCM 9.0 (2028-E09), with a valid license are entitled to upgrade to DCFM V10.0. IBM customers who purchased EFCM V8 or EFCM 9.0 from IBM, will receive entitlements to one DCFM V10.0 license option at no cost for the software license feature. Any time remaining on the EFCM maintenance agreement will be lost at the time of the trade-up. Refunds are not offered for remaining EFCM Software Maintenance authorizations that are unexpired. The trade-up feature one-time charge includes DCFM V10.0 Software Maintenance Registration for one year from the date of the trade-up. Should existing EFCM V8 or EFCM 9.0 IBM customers upgrade to DCFM V10.0, all license terms of DCFM V10.0 will apply.

Conversion paths to DCFM V10.0 are supported from the following versions:

- EFCM Enterprise Base 9.6 or 9.7
- EFCM Enterprise + Advanced Module 9.6 or 9.7
- EFCM Standard 9.6 or 9.7

Users of any earlier software version will need to upgrade to any of the above specified levels, which may require a brief maintenance agreement with Brocade to obtain interim code level downloads. Interim EFCM code levels (and any required license keys) should be obtained from Brocade at:

<http://www.brocadeconnect.com>

Existing customers of Brocade Fabric Manager V5: Existing customers with a valid license are entitled to upgrade to DCFM V10.0. IBM customers who purchased Fabric Manager V5 from IBM, will receive entitlements to one DCFM V10.0 license option at no cost for the software license feature. Any time remaining on the Fabric Manager maintenance agreement will be lost at the time of the trade-up. Refunds are not offered for remaining Fabric Manager Software Maintenance authorizations that are unexpired. The trade-up feature one-time charge includes DCFM V10.0 Software Maintenance Registration for one year from the date of the trade-up. Should existing Fabric Manager V5 IBM customers upgrade to DCFM V10.0, all license terms of DCFM V10.0 will apply.

Conversion paths to DCFM V10.0 are supported from the following versions:

- Fabric Manager 5.4 (all domain sizes)
- Fabric Manager 5.5 (all domain sizes)

Users of any earlier software version will need to upgrade to any of the above specified levels, which may require a brief maintenance agreement with Brocade to obtain interim code level downloads. Interim EFCM code levels (and any required license keys) should be obtained from Brocade at:

<http://www.brocadeconnect.com>

Existing customers of EFCM V8 or 9.0, or Fabric Manager V5: With this announcement, IBM is providing new trade-up part numbers for a limited time that permit EFCM V8 or 9.0 and Fabric Manager V5 customers to trade up to DCFM V10 at no additional charge for the software. Customers will be charged for the first year Maintenance and Support services. The following qualifications must be satisfied for a customer to use these new trade-up part numbers:

- The EFCM V8 or 9.0, or Fabric Manager V5 licenses must be fully licensed for production use. For example, EFCM or Fabric Manager evaluation licenses do not qualify for the trade-up part numbers.
- The licenses must have been acquired on or before October 28, 2008.
- All other IBM license terms for trade-ups apply. For example, the customer agrees to terminate their use of the EFCM or Fabric Manager license when they install the replacement DCFM V10.0 license.

This new trade-up option offers EFCM and Fabric Manager customers the opportunity to move to the latest SAN Fabric Management technology, at no additional cost for the software. Customers should note that DCFM V10.0 is not a complete functional replacement for EFCM or Fabric Manager. Customers who are interested in trading up to DCFM should consult with their IBM representative or IBM Business Partner when determining if the capabilities of DCFM V10.0 will meet their unique needs, and also to verify that they qualify for use of the trade-up part numbers. Customers will need to contact their IBM representative or IBM Business Partner to request this trade-up option.

IBM representatives or IBM Business Partners must follow the process outlined in the [Planning information](#) section of this document.

Purchases of these trade-up part numbers will be examined by IBM to ensure that the above qualifications have been met. Any submitted trade up order which does not meet the requirements is subject to cancellation or it can be billed to the customer for both the DCFM V10.0 software license feature and the Software Maintenance Registration.

Accessibility by people with disabilities

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

Program number

Program number	VRM	Program name
5639-D1F	10.0.2	IBM System Storage Data Center Fabric Manager (DCFM)

Software Maintenance:

5639-DC1		IBM System Storage Data Center Fabric Manager No Charge Registration and 1 YR Renewal
5639-DC2		IBM System Storage Data Center Fabric Manager 1 Yr After License
5639-DC3		IBM System Storage Data Center Fabric Manager 3 Yr Registration
5639-DC4		IBM System Storage Data Center Fabric Manager 3 Yr Renewal
5639-DC5		IBM System Storage Data Center Fabric Manager 3 Yr After License

Offering Information

Product information is available via the Offering Information Web site

<http://www.ibm.com/common/ssi>

Publications

The following publications can be ordered by October 2008. To order, use the Publications Center or contact your IBM representative.

Title	Order number
IBM System Storage Data Center Fabric Manager User Manual	GC52-1304
IBM System Storage Data Center Fabric Manager Migration and Transition Guide	GC52-1305

The IBM Publications Center

<http://www.ibm.com/shop/publications/order>

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the U.S.) or customer number for 20 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries, free of charge.

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=208-371>

Technical information

Specified operating environment

Systems requirements

The DCFM system requirements and recommended configuration options vary depending on the size of the SAN fabrics being managed with DCFM. The SAN fabrics are defined as:

- Small fabrics: 1 to 2,000 ports with 1 to 20 domains
- Medium fabrics: 2,001 to 5,000 ports with 21 to 60 domains
- Large fabrics: 5,001 to 9,000 ports with 61 to 120 domains

Hard drive storage: 1 GB free disk space is required for installation. After installation, 5 GB of free disk space for small and medium-sized SANs, and 10 GB for large SANs is recommended.

To allow for a larger amount of historical data, 20 GB (small and medium-sized SANs) and 40 GB (large SANs) of free disk space is recommended.

Server configurations

Operating system	Installation type	Small fabrics	Medium fabrics	Large fabrics
Windows, Linux and SUSE Linux	Server/Client	2 GHz CPU 2 GB RAM	Dual Processor 3 GHz CPU 2 GB RAM	Dual Processor Dual core 2.4 GHz CPU 2 GB RAM
Solaris	Server	Fire V240 Server 1 1.34 GHz CPU 1 GB RAM	Fire V240 Server 2 1.34 GHz CPU 2 GB RAM	Fire V240/V440 Server 2 1.5 GHz CPU 2 GB RAM
Solaris	Client	Ultra 25 Workstation 1 1.34 GHz 1 GB RAM	Ultra 45 Workstation 1 1.34 GHz 2 GB RAM	Ultra 45 Workstation 1 1.5 GHz 2 GB RAM
VMware*	Server/Client	Requirements same as Guest OS above		

* Modem needs to be provisioned on target physical hardware to utilize modem-based call home.

Qualified firmware versions:

- Fabrics exclusively consisting of FOS require version 5.0, or later
- Fabrics comprised of both FOS and M-EOS requires FOS version 6.0, or later, and M-EOS version 9.6, or later

Required FOS features

Some DCFM Enterprise features require specific FOS licensed features to be enabled. Consult the *DCFM User's Manual* or contact IBM Support for details.

Seed switch

Pure M-EOS fabrics are not supported with DCFM. DCFM uses a "seed switch"-based implementation to enable in-band communication to obtain fabric-wide information. Only a FOS-based switch or director can act as a seed switch.

Seed switch firmware requirements:

- For pure FOS fabrics: FOS switch running v5.0, or later
- For mixed fabrics:
 - M-EOSc and M-EOSn V9.6.x, or later
 - FOS switch running V6.0, or later

A seed switch can be a dedicated switch or one that is used both for management and FC traffic purposes. DCFM expects that the seed switch runs the highest level of FOS firmware in the fabric.

For small fabrics, the use of a SAN16B-2 or SAN24B-4 is recommended. Medium and large fabrics a SAN256B or SAN768B is recommended.

Software requirements

Supported client/server operating systems

- Microsoft® Windows 2003 Server, Windows XP, Windows Vista, and Windows 2008 Server
- Red Hat Linux AS 4.0, Red Hat Enterprise Linux 5 Advanced, and SUSE Linux Enterprise Server 10 SP1
- Sun Solaris 10
- VMware ESX Server 3.5
- Guest operating systems supported: Windows 2003 Server, Linux Red Hat AS5, and SUSE Linux ES10

The program's specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a README file, or other information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

Limitations

For additional information, refer to [Usage restriction](#) in the Terms and conditions section of this announcement, or to the License Information document that is available on the IBM Software License Agreement Web site

<http://www.ibm.com/software/sla/sladb.nsf>

Planning information

DCFM upgrade features

IBM provides IT organizations with functional continuity when upgrading from Enterprise Fabric Connectivity Manager (EFCM) or Fabric Manager (FM) to DCFM. Refer to the [Description](#) section of this announcement for details and requirements.

Customer responsibilities

Installation of the IBM System Storage Data Center Fabric Manager V10 on a customer-supplied server is the customer responsibility. In addition to provisions of the hardware requirements and software requirements stated in this announcement, the *IBM System Storage Data Center Fabric Manager User Manual* (GC52-1304) and *IBM System Storage Data Center Fabric Manager Migration and Transition Guide* (GC52-1305) should be reviewed during installation.

Users migrating to DCFM V10 from a previous instance of EFCM or Fabric Manager software installation, need to verify that the correct version is installed prior to migrating to DCFM. For information about upgrading to a version of EFCM that meets migration requirements, refer to the IBM System Storage Data Center Fabric Manager Migration and Transition Guide GC52-1305. E/OS or FOS versions may also need to be upgraded on supported switches and directors.

Customers requiring migration assistance from existing versions of EFCM or Fabric Manager software should contact the service organizations from which they are currently receiving support.

DCFM upgrades

Customers who are interested in trading up to DCFM should consult with their IBM representative or IBM Business Partner to help them determine if they qualify for use of the trade-up part numbers. The IBM representatives or IBM Business Partners have to request this trade up option prior to placing an order.

IBM Business Partners or IBM sales representatives responsibilities:

A written request for each trade up order must be submitted by completing the DCFM Upgrade Eligibility Form. Any order submitted without a completed DCFM Upgrade Eligibility Form will be billed to the customer charging for both the DCFM V10.0 software license feature and the Software Maintenance Registration.

The DCFM Upgrade Eligibility Form and detailed instructions regarding qualification for a no-charge upgrade to DCFM are available for IBMers on the Sales Support Information (SSI) Web site and for Business Partners on the IBM PartnerWorld® Web site.

IBM Business Partners and IBM sales representatives must submit the completed DCFM Upgrade Eligibility Form to

NEWDISK@us.ibm.com or NEWDISK/San Jose/IBM@IBMUS

Purchases of these trade-up part numbers will be examined by IBM to ensure that the above qualifications have been met.

Direct customer support

For technical support or assistance, contact your IBM representative or visit

<http://www.ibm.com/support>

Packaging

DCFM V10 is orderable using the AAS ordering system and IBM will ship a DVD media package. This program, when loaded from the DVD media package, contains the applicable IBM license agreement and License Information, which will be presented for acceptance at the time of installation of the program.

Form/DVD	Description	Orderable feature code
SK5T-8801	Media kit for DCFM v10.0	5806

Software Services

IBM Software Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, we extend our IBM Software Services reach through IBM Business Partners to provide an extensive portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

To learn more about IBM Software Services or to contact a Software Services sales specialist, visit

<http://www.ibm.com/software/sw-services/>

Ordering information

Charge metric

Program name	Part number or PID number	Charge metric
DCFM	5639-D1F	per server

Server

Server is the unit of measure by which this program is licensed. A Server is a computer system that executes requested procedures, commands, or applications to one or more user or Client Devices. A Proof of Entitlement (PoE) must be obtained for each server regardless of the number of processor cores or partitions in the server on which the program runs or each server managed by the program. Where blade technology is employed, each blade is considered a separate server.

Program name: IBM System Storage Data Center Fabric Manager (DCFM) V10

Program number: 5639-D1F

Base Data Center Fabric Manager (DCFM) One-time Charge with one year Software Maintenance

Specify quantity of Base DCFM feature equal to the number of servers it is to be installed on.

Feature description	Feature number
DCFM V10 Base One-time charge per server with 1 Year Software Maintenance	0001
Trade-up features:	
Trade Up from FM V5 Trade Up from 5639-FMA Fabric Manager V5, One-time charge per server with 1 Year Software Maintenance	0002
Trade Up from ECFM V8 or V9 Trade Up from 5697-J37 and 2028-E09 ECFM, One-time charge per server with 1 Year Software Maintenance	0003
Feature description	Feature number
Media Kit for DCFM v10.0	5806

This software license includes Software Maintenance, previously referred to as Software Subscription and Technical Support.

Extending coverage for a total of three years from the date of acquisition may be elected. Order the program number, feature number, and quantity to extend coverage for your software licenses. If maintenance has expired, specify the after license feature number.

Software license includes 1 year Software Maintenance

5639-DC1 Maintenance no charge 1 year registration + 1 year renewal

Feature description	Feature number
DCFM V10 1 Yr Registration Per Server SW Maint No Charge Registration	0001

Feature description	Feature number
DCFM V10 1 Yr Renewal One year renewal one-time charge per server	0002

5639-DC2 - SW Maintenance After License, 1 year

Feature description	Feature number
DCFM V10 1 Yr After License One year after license per server	0001

5639-DC3 Maintenance 3 year registration (2 year uplift)

Feature description	Feature number
DCFM V10 3 Yr Registration Three year registration per server	0001

5639-DC4 Maintenance 3 year renewal

Feature description	Feature number
DCFM V10 3 Yr Renewal Three year renewal per server	0001

5639-DC5 - SW Maintenance After License, 3 year

Feature description	Feature number
DCFM V10 3 Yr After License Three year after license per Server	0001

Terms and conditions

The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage® Agreement, and the IBM Agreement for Acquisition of Software Maintenance.

Licensing

IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use.

This software license includes Software Subscription and Support (also referred to as Software Maintenance).

Agreement for Acquisition of Software Maintenance

The IBM Agreement for Acquisition of Software Maintenance (Z125-6011) agreement applies for subscription and support (also referred to as Software Maintenance) and does not require customer signatures.

These programs are licensed under the IBM Program License Agreement (IPLA) and the associated Agreement for Acquisition of Software Maintenance, which provide for support with ongoing access to releases and versions of the program. IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with the initial license acquisition of each program acquired. The initial period of Software Subscription and Support (also referred to as Software Maintenance) can be extended by the purchase of a renewal option, if available. These programs have a one-time license charge for use of the program and an annual renewable charge for the enhanced support that includes telephone assistance (voice support for defects during normal business hours), as well as access to updates, releases, and versions of the program as long as support is in effect.

License Information form number

LC23-5056-00

The program's License Information will be available for review on the IBM Software License Agreement Web site

<http://www.ibm.com/software/sla/slabd.nsf>

Limited warranty applies

Yes

Limited warranty

IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

IBM provides you with access to IBM databases containing information on known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, consult the IBM Software Support Handbook found at

<http://www.ibm.com/support/handbook>

IBM will maintain this information for at least one year after the original licensee acquires the program (warranty period).

Money-back guarantee

If for any reason you are dissatisfied with the program and you are the original licensee, you may obtain a refund of the amount you paid for it, if within 30 days of your invoice date you return the program and its PoE to the party from whom you obtained it. If you downloaded the program, you may contact the party from whom you acquired it for instructions on how to obtain the refund.

For clarification, note that for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

Authorization for use on home/portable computer

You may not copy and use this program on another computer without paying additional license fees.

Volume orders (IVO)

Yes. Contact your IBM representative.

Passport Advantage applies

No

Usage restriction

Yes

This license is personal to Customer and Customer shall not assign, transfer or sublicense this license without Brocade's prior written approval which Brocade will not unreasonably withhold.

For additional information, refer to the License Information document that is available on the IBM Software License Agreement Web site

<http://www.ibm.com/software/sla/slabd.nsf>

Software Subscription and Support (Software Maintenance) applies

Yes. All distributed software licenses include Software Subscription and Support (also referred to as Software Maintenance) for a period of 12 months from the date of acquisition, providing a streamlined way to acquire IBM software and assure technical support coverage for all licenses. Extending coverage for a total of three years from date of acquisition may be elected.

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IBM Operational Support Services - SoftwareXcel

No

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

Yes. A 15% education allowance applies to qualified education institution customers.

Prices

Base Data Center Fabric Manager (DCFM) one-time charge with one year Software Maintenance

Description	Program number	Feature	Price
DCFM V10 Base	5639D1F	0001	\$41,250
Trade Up from FM V5	5639D1F	0002	\$8,250
Trade Up from ECFM V8 or V9	5639D1F	0003	\$8,250
Media Kit for DCFM v10.0	5639D1F	5806	\$230
DCFM V10 1 Year Registration	5639DC1	0001	\$0
DCFM V10 1 Year Renewal	5639DC1	0002	\$8,250
DCFM V10 3 Year Registration	5639DC3	0001	\$16,500
DCFM V10 3 Year Renewal	5639DC4	0001	\$24,750
DCFM V10 1 Year After License	5639DC2	0001	\$24,750
DCFM V10 3 Year After License	5639DC5	0001	\$41,250

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Corrections

(Corrected on November 11, 2008)

In Technical information section corrected table where numbers (2 GHz CPU and 2 GB RAM) for Windows, Linux, and SUSE Linux were missing under Small fabrics heading.